

Nos. 23-1056, 23-1057

**In the United States Court of Appeals
for the Federal Circuit**

**FUTURE LINK SYSTEMS, LLC,
Plaintiff-Appellee**

v.

**REALTEK SEMICONDUCTOR CORPORATION,
Defendant-Appellant**

Appeal from the United States District Court
for the Western District of Texas
Nos. 6:21-cv-00363-ADA-DTG, 6:21-cv-01353-ADA-DTG
Hon. Alan D. Albright

**CORRECTED NON-CONFIDENTIAL OPENING BRIEF FOR
DEFENDANT-APPELLANT REALTEK SEMICONDUCTOR CORP.**

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CERTIFICATE OF INTEREST

Counsel for Defendant-Appellant Realtek Semiconductor Corp. certifies the following:

1. Represented Entities. Fed. Cir. R. 47.4(a)(1). Provide the full names of all entities represented by undersigned counsel in this case.	2. Real Party in Interest. Fed. Cir. R. 47.4(a)(2). Provide the full names of all real parties in interest for the entities. Do not list the real parties if they are the same as the entities.	3. Parent Corporations and Stockholders. Fed. Cir. R. 47.4(a)(3). Provide the full names of all parent corporations for the entities and all publicly held companies that own 10% or more stock in the entities.
Realtek Semiconductor Corp.	None.	None.

4. Legal Representatives. List all law firms and the partners or associates that (a) appeared for the entities in the originating court or agency or (b) are expected to appear in this court for the entities. Do not include those who have already entered an appearance in this court. Fed. Cir. R. 47.4(a)(4).

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5. Related Cases. Other than the originating case(s) for this case, are there related or prior art cases that meet the criteria under Fed. Cir. R. 47.5(a)?

Certain Integrated Circuit Products and Devices Containing the Same, Inv. No. 337-TA-1295 (ITC);

Realtek Semiconductor Corp. v. ITC, No. 23-1187 (Fed. Cir.).

6. Organizational Victims and Bankruptcy Cases. Provide any information required by Fed. R. App. P. 26.1(b) (organizational victims in criminal cases) and 26.1(c) (bankruptcy case debtors and trustees). Fed. Cir. R. 47.4(a)(6).

None/Not Applicable

Date: February 12, 2024

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Pursuant to Federal Circuit Rule 25.1(e)(1)(B) and the district court's Standing Order Governing Proceedings – Patent Cases, dated October 8, 2023, pages 1 and 5 have been partially redacted. Per the Court's January 31, 2024 Order, and consistent with the Court's guidance contained therein, Appellee presented a revised set of redactions to Future Link's counsel prior to this filing, and Future Link's counsel confirmed that it did not propose any additional redactions. The material on these pages contains confidential information that is subject to the interim protective order in Future Link Sys., LLC v. Realtek Semiconductor Corp., No. 6:21-cv-00363-ADA-DTG (W.D. Tex.), ECF No. 35. Redactions total 3 unique numbers and words. The addendum is partially redacted at pages Appx4-5; Appx10; Appx12-18; and Appx21-23. These pages, which are part of the district court's orders on appeal, were redacted by the district court at the request of Future Link for containing confidential information.

The confidential information relates to agreements between Plaintiff-Appellee Future Link and third parties and have been designated as "Outside Attorneys' Eyes Only" by Future Link under the interim protective order.

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STATEMENT OF RELATED CASES

A previous appeal was taken from district court case number 6:21-cv-00363-ADA-DTG (W.D. Tex.), which was dismissed at the joint request of the parties. Case No. 2022-1879, ECF No. 14. No other appeals have been taken in these cases. Counsel for Appellant are aware of the following cases that may directly affect, or be directly affected by, this Court's decision in the instant appeal:

- *Realtek Semiconductor Corp. v. ITC*, No. 23-1187 (Fed. Cir.)¹

PRELIMINARY STATEMENT

This appeal arises from the denial of Realtek's request for fees and costs incurred defending frivolous patent infringement suits. Future Link brought those suits not to defend its intellectual property, which it merely acquired and does not practice, but to collect a \$1 million reward from MediaTek, one of Realtek's primary competitors in the semiconductor market. Under the terms of MediaTek's license agreement with Future Link, MediaTek would pay an extra \$1 million—
Confidential agreement term
equivalent to a [REDACTED] percent bonus on its license fee—if Future Link simply filed suit against Realtek, regardless of whether the suit had any basis.

¹ In addition, Realtek has brought separate antitrust, unfair-competition, and tort claims against Future Link and other defendants related to the agreement at issue in this appeal. See *Realtek Semiconductor Corp. v. Future Link Sys., LLC et al.*, No. 5:23-cv-02774-PCP (N.D. Cal. filed June 6, 2023). The outcome of the instant appeal could potentially affect the amount of damages that Realtek could recover in that case.

As quickly became clear, Future Link’s allegations lacked any factual basis. And despite having constructive knowledge of its client’s improper purpose, Future Link’s counsel nonetheless filed a baseless lawsuit in violation of Federal Rule of Civil Procedure 11. Once the district court stayed the case and announced its decision to enter a dismissal, Future Link hurriedly filed a voluntary dismissal (attempting to secure a dismissal without prejudice) before the court could enter its full dismissal opinion.

After Realtek moved for sanctions, the district court exercised its inherent power to sanction Future Link for its improper agreement with MediaTek and *sua sponte* converted Future Link’s voluntary dismissal into a dismissal *with* prejudice. The district court, however, denied Realtek’s motion for sanctions under Rule 11 and declined to award fees or costs.

Realtek appeals the district court’s decisions under Rule 11, 35 U.S.C. § 285, and 28 U.S.C. § 1927, and its failure to address Realtek’s request for costs under Rule 54(d)(1). The district court’s denial was premised on misinterpretations of Rule 11, Section 1927, and the “prevailing party” prong of Section 285. Those errors, and the district court’s failure to award costs, require reversal.

Given the harm caused by Future Link’s improper agreement with MediaTek, Realtek has also sought to pursue other legal remedies, including by bringing a separate action for antitrust violations and unfair competition. However,

Realtek was and continues to be unduly hampered by the heavy redactions of the court's Omnibus Order, including in particular the sections describing why the agreement was improper, and by Future Link's improper designation of the agreement as "Outside Attorneys' Eyes Only" material under the protective order in the district court case. While similar issues are being litigated in the separate antitrust litigation in California, Realtek here appeals the district court's decision to adopt Future Link's proposed redactions of the court's order. Realtek also appeals the district court's denial of Realtek's request to disclose a limited portion of the agreement to in-house counsel and to outside counsel who had not filed an appearance in the case, even for the purpose of obtaining legal counsel in the antitrust matter. These denials by the district court also constitute an abuse of discretion and warrant reversal.

JURISDICTIONAL STATEMENT

Plaintiff Future Link invoked the district court's jurisdiction under 28 U.S.C. §§ 1331 and 1338(a). Appx00029. The district court issued its Omnibus Order denying in part Realtek's motions for sanctions, fees, and costs on September 12, 2022. Appx00001-19. The district court issued a Discovery Order denying Realtek's requests for relief on October 10, 2022. Appx00020-27. Realtek timely noticed its appeal of both orders on October 12, 2022. Appx06250-52. The district court entered a text order on August 24, 2023, denying Realtek's motion for

reconsideration of a portion of the Omnibus Order. Appx06519. Realtek timely amended its notice of appeal on September 25, 2023, to include the denial of reconsideration. Appx06503-05.

Because these cases arose under the patent laws, this Court has appellate jurisdiction under 28 U.S.C. § 1295(a).

STATEMENT OF THE ISSUES

1. Whether the district court erred in finding that Realtek was not the “prevailing party” under 35 U.S.C. § 285.
2. Whether the district court erred in interpreting the “evidentiary support” requirement under Rule 11(b)(3) and the “improper purpose” requirement under Rule 11(b)(1).
3. Whether the district court erred in denying Realtek’s motions for fees under 28 U.S.C. § 1927.
4. Whether the district court abused its discretion in failing to rule on Realtek’s request for costs under Rule 54(d)(1).
5. Whether the district court abused its discretion in denying Realtek’s motion to make the Omnibus Order public with minimal redactions, Realtek’s motion to permit disclosure of limited portions of the MediaTek license agreement to Realtek’s in-house counsel, and Realtek’s motion to permit disclosure of certain documents to outside counsel who had not entered appearances.

CONFIDENTIAL MATERIAL OMITTED
STATEMENT OF THE CASE

This appeal arises from a lawsuit initiated by Plaintiff-Appellee Future Link, a patent assertion entity, to collect on a \$1 million pay-to-sue agreement with MediaTek, one of Defendant-Appellant Realtek's chief rivals in the market for integrated circuits.

I. Realtek's rival agrees to pay Future Link \$1 million to sue Realtek.

In May 2019, Future Link entered a license agreement with MediaTek under **Confidential agreement term** which MediaTek would pay [REDACTED] to license Future Link's patent portfolio. Under that agreement, MediaTek would pay an additional \$1 million if Future Link secured a license from—*or* “institute[d] litigation against”—either of two companies: Realtek or Amlogic, two of MediaTek's chief competitors in the integrated-chip market. *See* Appx04978. This incentive payment would be paid regardless of whether Realtek or Amlogic actually infringed any of Future Link's patents, provided a license agreement was executed or a suit was filed before January 1, 2022. *Id.*

Until that time, Future Link had never sought a license from Realtek or threatened litigation. Based on the discovery produced in this case, it does not appear that Future Link had *ever* contemplated enforcing a patent against Realtek until March 2019, when it began negotiating its agreement with MediaTek. *See* Appx05101 ¶ 8.

II. Future Link sues Realtek for infringement.

After unsuccessfully seeking a license, Future Link filed suit against Realtek on April 13, 2021, in docket number 6:21-cv-00363 (the “363 case”). The complaint asserted infringement of U.S. Patent No. 7,917,680 (the “’680 patent”). Appx00028-34. Shortly thereafter, on May 27, 2021, Future Link forwarded the complaint to MediaTek, noting that it would send an invoice for its \$1 million reward. Appx05146.

Future Link’s complaint alleged that Realtek’s RTD1295 chip, and other unspecified products, infringed at least Claim 1 of the ’680 patent:

A method for managing packet-based communications in a rules-based system, the method comprising:

[1a] in a packet processor,

generating a protocol-based ordering configuration for passing packet data as a function of protocol compliance rules for the rules-based system, and

[1b] generating a performance-based communications order for passing the packet data as a function of performance-based rules and the generated protocol-based ordering configuration; and

[1c] communicating the packet data as a function of the performance-based communications order.

Appx00045.²

² The Patent Trial and Appeal Board later found all of the ’680 claims that Realtek challenged, including Claim 1, to be unpatentable. See Judgment, *Realtek Semiconductor Corp. v. Future Link Sys., LLC*, No. IPR2021-01182, at 48 (PTAB Jan. 4, 2023).

According to the claim chart attached to its complaint, Future Link’s infringement allegations depended entirely on the *optional* quality-of-service (“QoS”) signals supported by AXI4, a burst-based (not packet-based) communication bus protocol developed by ARM. *See Appx00059.* Citing an ARM specification document, Future Link alleged that “each Accused Product further orders packet data communications based on the AXI4 or later QoS systems,” allegedly covered by limitation [1b]. *Appx00058.* Future Link’s chart also cites a description of the RTD1295 on Realtek’s website, which lists the ARM Cortex-A53 quad-core CPU as one of its components. *Appx00049.* The chart further cites the Cortex-A53’s Technical Reference Manual, which notes that the Cortex-A53 supports either the ACE or the CHI bus architectures. *Appx00050.*

Realtek sent Future Link’s counsel a *Stone Basket* letter on September 22, 2021. *Appx02214-25.* In that letter, Realtek pointed out that, according to the same documents on which Future Link relied, the Cortex-A53 does not include any QoS signals.³ *Appx02214-23.* Without those QoS signals, there was no factual basis for Future Link’s allegations. *Id.* Consequently, Realtek requested that Future Link

³ Future Link had since filed its First Amended Complaint, *Appx00231-59*, which attempted to address jurisdictional shortcomings that Realtek raised in its first motion to dismiss, *Appx00098-000217*. The First Amended Complaint did not include a revised claim chart or indicate any additional factual basis for Future Link’s infringement allegations. Because the First Amended Complaint failed to cure the jurisdictional problems, Realtek renewed its motion to dismiss. *Appx00261-00379.*

voluntarily dismiss the suit. Appx02224-25. Realtek also notified Future Link’s counsel of its intent to seek sanctions under Rule 11 based on their inadequate pre-filing investigation and the lack of evidentiary support for Future Link’s claims. *Id.* Future Link declined to dismiss the suit, leading Realtek to file its Rule 11 motion, Appx02011-03764. Roughly one month after Realtek filed its Rule 11 motion, Future Link filed another suit against Realtek in the same court, docket number 6:21-cv-01353 (the “1353 case”), asserting infringement of two different patents. See Appx04032-93.

Future Link’s counsel have never indicated that their pre-filing investigation in the 363 case involved anything more than reviewing Realtek’s website and ARM technical documents. They never indicated, for example, that they attempted to reverse-engineer or even physically examine any accused products.

III. Future Link dismisses its suits.

On March 17, 2022, while its Rule 11 motion was pending in the 363 case, Realtek’s counsel learned through Future Link’s document production that MediaTek had agreed to pay Future Link \$1 million to bring the suit. Appx05100-01 ¶ 5.

On March 30, 2022, the district court granted Realtek’s pending motion to stay the 363 case. Appx06514 (text order). In doing so, the court announced that it would grant Realtek’s motion to dismiss the suit for lack of jurisdiction and that it

would enter a full opinion at a later date: “Upon considering the co-pending motion to dismiss, [the] Court has decided to rule in favor of defendant on at least one issue. This case is hereby STAYED until the Court issues its full opinion.” *Id.*

The next day, on March 31, Future Link (by its account) consummated a confidential agreement that would provide a license to ARM that covered the asserted patents. Appx00004 (citing Appx05659). According to Future Link, this agreement would “resolve” several of its pending cases, including against Realtek. Appx05660. Four days later, Future Link voluntarily dismissed both cases, purportedly without prejudice, under Rule 41(a)(1)(A)(i). Appx04901-07. The district court had not yet entered its full dismissal opinion.

On April 18, 2022, Realtek moved to supplement its Rule 11 motion based on the newly revealed MediaTek agreement, seeking sanctions under Rule 11(b)(1) and disgorgement of its \$1 million reward in light of Future Link’s improper purpose in bringing the suit. Appx05084-05229. Realtek also moved for attorney fees and costs on several grounds, including 35 U.S.C. § 285 (allowing an award of fees to the prevailing party in exceptional patent cases), 28 U.S.C. § 1927 (allowing an award of fees against an attorney who “unreasonably and vexatiously” “multiplies the proceedings”), and Rule 54(d)(1) (entitling the prevailing party to costs). Appx04909-05074.

IV. The district court sanctions Future Link but denies fees, costs, and disgorgement.

In its Omnibus Order, the district court exercised its inherent power to sanction Future Link for its “improper contract” with MediaTek, which it found “should be discouraged as a matter of public policy.” Appx00016. “Public policy cuts directly against an agreement of this kind,” the court found, “where a company pays a third party to sue a competitor for any reason with or without merit.” *Id.* But the court stopped short of awarding fees or costs to Realtek or disgorging Future Link’s \$1 million payment, instead converting Future Link’s voluntary dismissal into a dismissal *with* prejudice. Appx00017.

A. 35 U.S.C. § 285 and Rule 54(d)(1)

The district court denied fees under Section 285 on the ground that Realtek was not the “prevailing party.” Ignoring this Court’s contrary precedent, which was cited by Realtek, *see* Appx04928, the district court erroneously assumed that a defendant can only be a “prevailing party” if it receives a decision on the merits:

Neither party gained “prevailing party” status in this case because neither party received relief based on the merits, and the voluntary dismissal did not alter the legal relationship of the parties. Moreover, the Court could not have ruled on the merits of this case because Realtek’s motion to dismiss sought dismissal based on procedural and jurisdictional grounds.

Appx00013.

The district court also erroneously assumed that, in order for there to be a prevailing party, a decision must change the parties' legal relationship (rather than simply rebuff the plaintiff's effort to effect that change):

An opinion on the Court's lack of jurisdiction of this case does not alter the legal relationship of the parties. Because the Court was preparing its first ruling on a motion to dismiss, the Court would have granted FLS at least once [sic] chance to amend and/or cure any procedural or jurisdictional defects, so the parties would have still remained at the pleading stage in this case. Ultimately, FLS dismissed the above-captioned cases because FLS entered into a settlement agreement with ARM Holdings, and the settlement agreement covered Realtek's use of ARM chips in the accused products.

Id.

While the district court, in the same order, exercised its discretion to sanction Future Link by converting Future Link's voluntary dismissal into a dismissal **with** prejudice, Appx00017, it did not consider whether that outcome had any effect on its "prevailing party" analysis. As a result, the district court did not reach the question of whether the case was "exceptional" under Section 285. Appx00014.

Perhaps because of its conclusion that Realtek was not the "prevailing party" under Section 285, the district court did not address Realtek's request for costs under Rule 54(d)(1).

B. Rule 11(b)(3) (“evidentiary support”)

In its motion for sanctions, Realtek demonstrated to the district court that, according to the same technical documents on which Future Link relied for its infringement contentions, the accused CPU did not use the optional QoS signals that the infringement allegations required. *See Appx02023-30.* Nonetheless, the district court concluded that “[Future Link]’s counsel met their Rule 11 obligations by investigating the optional feature and believing it was active,” despite the lack of any evidence of QoS signal activation. Appx00010. The court found the technical documents to be ambiguous:

On their own, the underlying technical documents do not make it immediately clear that the product does not infringe. Ultimately, [Future Link]’s counsel needed additional details from Realtek’s counsel and/or discovery to confirm that the accused products did not implement the option [sic] feature.

Appx00011.

In response to Realtek’s argument that the lists of signals implemented by the accused CPU—which exclude any mention of a QoS signal—rule out the use of the AXI4 QoS signals on which Future Link’s allegations relied, the court found the following:

This list does not include the accused QoS signal, so Realtek argues that FLS failed to conduct a reasonable pre-suit investigation. But this list also does not affirmatively indicate that the accused QoS signal is disabled or unsupported. Instead, it instructs the reader that, “[f]or a complete description of the ACE interface signals, see the

. . . *ACE Protocol Specification AXI3, AXI4 . . .*.” [Appx02847.] In isolation, this section is inconclusive as to whether the QoS signal is supported. Ultimately, FLS needed additional discovery and a technological explanation from Realtek to determine that the accused QoS signal is not present.

Id.

The district court did not consider whether Future Link’s counsel should have attempted to examine or reverse-engineer an accused product. Nor did the court consider whether, even in light of its reading of the documents, such discovery was “likely” to provide support for infringement, as required by Rule 11(b)(3). Instead, the district court assumed that a mere possibility of infringement, uncontradicted (and unsupported) by technical documents, is enough to file suit and seek discovery.

C. Rule 11(b)(1) (“any improper purpose”)

The district court also found that “an improper purpose was not the but-for cause of [Future Link]’s counsel filing the 363 Complaint,” thus foreclosing sanctions under Rule 11(b)(1). Appx00012. This was because, the court reasoned, Future Link’s counsel would not personally have received any of the \$1 million inducement from MediaTek:

Regardless of whether the \$1 million payment motivated the client [Future Link], that payment was not the but-for cause of [Future Link]’s counsel’s actions. There is no incentive for counsel to file a meritless case because the \$1 million would be paid to the client, not to the attorney or the firm.

Id.

The court also assumed that, because it believed the case to be non-frivolous, filing for an improper purpose would not be sanctionable under Rule 11:

Moreover, although the contract *allowed* for a frivolous case, [Future Link] did not choose to file a frivolous case. [Future Link] filed a plausible patent infringement case based on what it believed to be an implemented, optional feature of a standard.

Id.

The district court did not address the evidence that Future Link’s counsel may have known (or at least should have known) about Future Link’s improper agreement. *See Appx06169 p. 37:10-25.*

Notably, the district court did not find that the \$1 million inducement constituted a *proper* purpose. Indeed, in the same order, the court sanctioned Future Link for its “improper contract” with MediaTek and found that Future Link itself had an “improper motive” in bringing the suit. Appx00017.

D. 28 U.S.C. § 1927

The district court denied Realtek’s motions under 28 U.S.C. § 1927 in both the 1353 and 363 cases. In the 1353 case, Realtek requested fees based on Future Link’s counsel having repeated the same defective jurisdictional allegations, and the same unlawful method of service, that had been the subject of Realtek’s earlier motion to dismiss in the 363 case. *See Appx05437-39.* The district court concluded

that Future Link’s counsel could not be responsible for repeating those flaws because the court had not yet issued a ruling on them. *See Appx00017-18.*

In the 363 case, the district court found that “Realtek fail[ed] to offer clear and convincing evidence that meets the Fifth Circuit’s high standard of finding this litigation meritless” and that Future Link’s purported decision to assert a completely new infringement theory in amending its initial Complaint indicated that its counsel had not unreasonably multiplied the proceedings. Appx00014-15.

V. The district court denies reconsideration.

Realtek moved the district court to reconsider its Section 285 decision, pointing out, among other things, that Realtek was also properly considered “the prevailing party” due to the court’s conversion of Future Link’s voluntary dismissal to a dismissal *with* prejudice. *See Appx06241-44.* Realtek also pointed out the court’s error in assuming that a decision on the merits was required for a defendant to be a “prevailing party.” *See Appx06242.* Lastly, Realtek reiterated its request for costs under Rule 54(d)(1), which the district court had declined to address. *See Appx06245-46.*

The district court ultimately summarily denied Realtek’s motion in a three-sentence text order. Appx06519 (text order of Aug. 24, 2023).

VI. Realtek raises three discovery disputes and the district court denies the requested relief.

Realtek raised three discovery disputes by email on October 4, 2022. *See Appx00020.* Realtek requested that the Omnibus Order be made public, with only minimal redactions, and that the district court deny Future Link's proposed redactions, which sought to prevent disclosure of sections of the order that addressed the nature of the improper conduct and why it was improper. *See Appx00020-22.* Realtek also requested that it be allowed to disclose a limited portion of the agreement to in-house counsel. *See Appx00023-25.* Finally, Realtek requested that it be allowed to disclose certain documents subject to the protective order to outside counsel who had not entered an appearance in the case, but who would agree to abide by the protective order, to explore alternative legal remedies for the harms suffered. *See Appx00026-27.* The district court denied relief as to all three. *See Appx00027.*

SUMMARY OF ARGUMENT

The district court's denial of fees and costs under 35 U.S.C. § 285, Rule 11, 28 U.S.C. § 1927, and Rule 54(d)(1), and the district court's denial of relief from the excessive redactions to the Omnibus Order and from the protective order, require reversal.

First, the district court wrongly concluded that Realtek was not “the prevailing party” under Section 285. This conclusion was premised on a simple

legal error—the assumption that a defendant, to be a prevailing party under the statute, must secure a decision on the merits that changes the relationship between the parties. The Supreme Court and this Court have held otherwise. Realtek prevailed in this case when the district court announced its intention to grant dismissal. But at a minimum, it prevailed when the district court later sanctioned Future Link by converting its voluntary dismissal into a dismissal with prejudice.

Second, the district court wrongly ruled that Future Link’s counsel had satisfied Rule 11. The court found that Future Link’s counsel had conducted a sufficient pre-filing investigation under Rule 11(b)(3), and had ascertained sufficient “evidentiary support” for its allegations, based on a *lack* of evidence of *non*-infringement. This inverts the Rule 11(b)(3) standard, which requires an *affirmative* showing of “evidentiary support.” In addition, the district court found that Future Link’s “improper motive” in bringing the suit was nevertheless permissible under Rule 11(b)(1) because Future Link’s counsel would not personally receive any of the \$1 million inducement. The court’s reasoning on this point was legally wrong and logically infirm.

Third, the district court wrongly denied Realtek’s motions for fees under 28 U.S.C. § 1927 in both cases. In the 1353 case, the district court applied the wrong standard in concluding that counsel’s actions were not vexatious because they had not yet been rejected by a court. In the 363 case, the court incorrectly concluded

that the suit was not meritless and that counsel was insulated by abandoning a flawed infringement theory in favor of another.

Fourth, the district court neglected to rule on Realtek’s request for costs under Rule 54(d)(1). As the prevailing party, Realtek is entitled to its costs, and a court’s failure to explain its de facto denial of those costs is an abuse of discretion.

Fifth, the district court’s denial of Realtek’s requested relief in the three discovery disputes requires reversal. The district court failed to articulate the correct legal standard and engage in the balancing test required to seal the Omnibus Order. Failure to do so constitutes an abuse of discretion. In addition, Future Link failed to make the required showing of “good cause” for keeping confidential the limited portion of the agreement Realtek wanted to disclose to its in-house counsel. That the district court denied Realtek’s request without a showing of good cause was an abuse of discretion. Finally, Future Link failed to make the required showing of “good cause” for keeping confidential the few documents that Realtek wanted to disclose to outside counsel who had not filed an appearance, burdening Realtek’s ability to seek further legal remedies. The district court’s denial of Realtek’s request, without any showing of good cause by Future Link, was an abuse of discretion.

These errors warrant reversal.

STANDARD OF REVIEW

The Court reviews interpretations of the term “prevailing party” de novo and under Federal Circuit law. *B.E. Tech., LLC v. Facebook, Inc.*, 940 F.3d 675, 677 (Fed. Cir. 2019). The term is interpreted consistently across different fee-shifting provisions, including 35 U.S.C. § 285 and Rule 54(d). *Id.*

Rule 11 and Section 1927 decisions are reviewed under regional circuit precedent for an abuse of discretion. *See Antonious v. Spalding & Evenflo Cos.*, 275 F.3d 1066, 1072 (Fed. Cir. 2002); *Bryant v. Mil. Dep’t*, 597 F.3d 678, 694 (5th Cir. 2010); *Phonometrics, Inc. v. Westin Hotel Co.*, 350 F.3d 1242, 1246 (Fed. Cir. 2003). A district court abuses its discretion if it commits legal error or if it bases its decision on a clearly erroneous view of the evidence. *Raniere v. Microsoft Corp.*, 887 F.3d 1298, 1303 (Fed. Cir. 2018).

Discovery decisions are also reviewed under regional circuit precedent for an abuse of discretion. *See June Med. Servs., LLC v. Phillips*, 22 F.4th 512, 519 (5th Cir. 2022); *Uniloc USA, Inc. v. Apple, Inc.*, 25 F.4th 1018, 1022 (Fed. Cir. 2022). With respect to the sealing of documents, a district court abuses its discretion if it fails to identify and apply the proper legal standard or fails to “provide sufficient reasons for its decision to enable appellate review.” *June Med. Servs.*, 22 F.4th at 519 (5th Cir. 2022).

ARGUMENT

I. The district court erred in rejecting fees under 35 U.S.C. § 285.

“[T]he prevailing party” in a patent-infringement suit may be awarded attorney fees if the case is “exceptional.” 35 U.S.C. § 285. Without reaching the exceptionality question, the district court denied Realtek’s motion on the sole basis that there was no “prevailing party.” Appx00013-14. The court mistakenly ruled, “[a]s a matter of law,” that a decision on the merits is required for either party to be considered “prevailing,” and that the decision must change the parties’ legal relationship. Appx00013.

Under the correct standard, Realtek was the prevailing party when the district court announced its decision to dismiss the suit, Appx06514 (text order of Mar. 30, 2022), and when it converted Future Link’s voluntary dismissal into a dismissal with prejudice, Appx00016-17.

And while the district court did not decide the question of exceptionality, this case is exceptional by any reasonable measure, especially in light of the district court’s decision to sanction Future Link for its “improper contract” with MediaTek. Appx00017.

A. The district court misinterpreted the meaning of “prevailing party.”

The district court erred in ruling that “[n]either party gained ‘prevailing party’ status in this case because neither party received relief based on the merits,

and the voluntary dismissal did not alter the legal relationship of the parties.”

Appx00013. Following the Supreme Court’s ruling in *CRST Van Expedited, Inc. v. EEOC*, 578 U.S. 419, 422 (2016), this Court has made clear that a decision on the merits “is not required” for a defendant to be “the prevailing party” under Section 285. *Raniere*, 887 F.3d at 1306. Rather, a defendant prevails when a district court’s decision “rebuff[s] [the plaintiff’s] attempt to alter the parties’ legal relationship.” *B.E. Tech.*, 940 F.3d at 679.

A decision can rebuff that attempt on jurisdictional or other non-merits grounds. *Id.* at 677; *Raniere*, 887 F.3d at 1306. In *Raniere*, for example, the defendants secured dismissal of the plaintiff’s claims for lack of standing in district court. 887 F.3d at 1306. This Court upheld their prevailing-party status. *Id.* at 1307. Similarly, in *B.E. Tech.*, the defendant secured dismissal on mootness grounds. 940 F.3d at 679. This Court upheld its prevailing-party status. *Id.*

The district court also wrongly applied the standard applicable to *plaintiffs*, assuming that the district court’s own action needed to change the legal relationship between the parties in order for Realtek to prevail. But the requirements for plaintiffs and defendants are different. “[W]hile a plaintiff ‘seeks a material alteration in the legal relationship between the parties’ and must achieve such an alteration to prevail, the defendant merely ‘seeks to prevent this alteration’

and thus prevails ‘whenever the plaintiff’s challenge is rebuffed.’” *Winters v. Wilkie*, 898 F.3d 1377, 1381 (Fed. Cir. 2018) (quoting *CRST*, 578 U.S. at 431).

B. Under the correct standard, Realtek is a prevailing party.

Realtek is a prevailing party twice over. Most recently, in view of Future Link’s improper contract with MediaTek, the district court converted Future Link’s voluntary dismissal without prejudice into a dismissal *with* prejudice. Appx00016-17. Prior to that, the district court had announced its decision to dismiss the suit on jurisdictional grounds. Appx06514 (text order of Mar. 30, 2022).

1. The district court’s dismissal with prejudice rendered Realtek the prevailing party.

Most recently, and as Realtek argued in the district court, Appx06241-44, Realtek became the prevailing party when the district court sanctioned Future Link by converting its voluntary dismissal into a dismissal with prejudice. *See* Appx00016-17. While not required for prevailing-party status, a dismissal of all claims with prejudice is “tantamount to a judgment on the merits,” *Raniere*, 887 F.3d at 1303, which makes the analysis especially “straightforward,” *Power Mosfet Techs., LLC v. Siemens AG*, 378 F.3d 1396, 1416 (Fed. Cir. 2004); *see also* *Robinson v. O’Rourke*, 891 F.3d 976, 981 (Fed. Cir. 2018) (“[A]lthough a judgment on the merits is *sufficient* to confer prevailing-party status, it is not *necessary*.”). In *Raniere*, for example, the Court found that involuntary dismissal of the plaintiff’s claims with prejudice, in part as a sanction for contumacious conduct, rendered the

defendants the prevailing parties. 887 F.3d at 1307. The district court's ruling here had the same effect.

2. The district court's decision to dismiss the suit also rendered Realtek the prevailing party.

Realtek was the prevailing party even before the district court's sanction ruling. At the same time it granted Realtek's motion to stay the proceedings, the court rendered a decision on the pending motion to dismiss for lack of personal jurisdiction: "Upon considering the co-pending motion to dismiss, [the] Court has decided to rule in favor of defendant on at least one issue. This case is hereby STAYED until the Court issues its full opinion." Appx06514 (text order of Mar. 30, 2022). Future Link voluntarily dismissed the suit five days later, before the court could enter its full opinion. *See* Appx04901-03.

That order, while not formally effecting the dismissal of the suit, announced the court's final decision that it lacked jurisdiction over Realtek, conclusively rebuffing all of Future Link's claims. Realtek had effectively "prevented [Future Link] from achieving a material alteration of the relationship between them, based on a decision marked by 'judicial *imprimatur*.'" *Raniere*, 887 F.3d at 1306 (quoting *CRST*, 578 U.S. at 422).

This fact is not altered by Future Link's rush to dismiss the suit under Rule 41(a)(1)(A)(i) before the court could enter its full opinion. Making a fee award contingent on the entry of a full and formal opinion, once the court has already

reached and announced its final decision, would elevate “form over substance.” *B.E. Tech.*, 940 F.3d at 679. As the Supreme Court noted in *CRST*, Congress intended through the fee-shifting statutes “to deter the bringing of lawsuits without foundation.” 578 U.S. at 432 (quoting *Christiansburg Garment Co. v. EEOC*, 434 U.S. 412, 420 (1978)). It would frustrate this purpose if a plaintiff could avoid a fee award by filing a voluntary dismissal before the court enters its full opinion on a decision already rendered. Doing so would “block[] a whole category of defendants for whom Congress wished to make fee awards available.” *Id.*

Holding otherwise would either encourage district courts not to stay cases until their dismissal opinions are ready—causing the winning party to incur more unnecessary fees—or it would arbitrarily disadvantage litigants whose judges announce rulings early, before entering full opinions. Either outcome would disserve the congressional objective behind Section 285. The important factor is whether the defendant has succeeded in convincing the court to rebuff the plaintiff’s claims, not whether the court’s order has formally been entered. “Ascertaining the ‘prevailing party’ requires [the Court] to ‘look to the substance of the litigation to determine whether an applicant has *substantially* prevailed in its position, and not merely the technical disposition of the case or motion. In effect, substance should prevail over form.’” *Schultz v. United States*, 918 F.2d 164, 166 (Fed. Cir. 1990) (quoting *Devine v. Sutermeister*, 733 F.2d 892, 898 (Fed. Cir.

1984)); *cf. Maher v. Gagne*, 448 U.S. 122, 129 (1980) (“Nothing in the language of [42 U.S.C.] § 1988,” which provides fees for the prevailing party in a civil rights action, “conditions the District Court’s power to award fees on full litigation of the issues or on a judicial determination that the plaintiff’s rights have been violated.”).

To be sure, a stay of proceedings does not, by itself, confer prevailing-party status. *O.F. Mossberg & Sons, Inc. v. Timney Triggers, LLC*, 955 F.3d 990, 993 (Fed. Cir. 2020). But here, the district court did not merely stay the case. It announced its decision to dismiss the suit—in other words, it “rebuffed” “the plaintiff’s challenge.” *CRST*, 578 U.S. at 431.

Nor does it matter that Future Link beat the court to the punch, dismissing its suit voluntarily before the court entered its full dismissal order. Although this Court has held in *O.F. Mossberg* that a voluntary dismissal that is filed before a district court rules can prevent prevailing party status, *see* 955 F.3d at 993, here, and unlike in *O.F. Mossberg*, the district court had already ruled and announced its decision before the voluntary dismissal: “Upon considering the co-pending motion to dismiss, [the] Court has decided to rule in favor of defendant on at least one issue.” Appx06514 (text order of Mar. 30, 2022). Indeed, even with the benefit of hindsight and when discussing this very issue, the district court put it the same way: by the time of the dismissal, the court already had issued “[a]n opinion on the Court’s lack of jurisdiction.” Appx00013.

Finally, whether the district court would initially have dismissed the suit without prejudice, allowing Future Link an opportunity to further amend its complaint, is, contrary to the district court’s decision, unimportant. *Contra Appx00013*. This Court held in *B.E. Technology* that the preclusive effect of a court’s decision was beside the point—what mattered was that the court had rebuffed the plaintiff’s efforts to change the parties’ legal relationship. 940 F.3d at 679; *see also Beach Blitz Co. v. City of Miami Beach*, 13 F.4th 1289, 1300 (11th Cir. 2021) (citing *B.E. Tech.*, 940 F.3d at 679) (finding, under an analogous fee-shifting statute, that dismissal without prejudice, despite not being preclusive, would still render the defendant the “prevailing party”). Here, the court’s announcement of its decision to dismiss the suit was sufficient judicial imprimatur, and whether its forthcoming order would have had preclusive effect was of no moment.

C. The case is exceptional.

This case is exceptional by any reasonable measure. While the district court did not reach the question of exceptionality under Section 285, it would have been an abuse of discretion for it not to conclude as much, especially in light of its decision to sanction Future Link for its “improper contract” with MediaTek, which was designed solely to impose burdens on one of MediaTek’s chief competitors. Appx00017.

[A]n “exceptional” case is simply one that stands out from others with respect to the substantive strength of a party's litigating position (considering both the governing law and the facts of the case) or the unreasonable manner in which the case was litigated. District courts may determine whether a case is “exceptional” in the case-by-case exercise of their discretion, considering the totality of the circumstances.

Octane Fitness, LLC v. ICON Health & Fitness, Inc., 572 U.S. 545, 554 (2014).

The district court already determined, in essence, that this case met that standard in finding that the “improper contract” with MediaTek, which was Future Link’s “improper motive” in bringing the case, “should be discouraged as a matter of public policy.” Appx00016-17. The court concluded that “[p]ublic policy cuts directly against an agreement of this kind, where a company pays a third party to sue a competitor for any reason with or without merit. Courts discourage this kind of agreement.” Appx00016. It would be inexplicable and incoherently contradictory for the district court not to find such a case to be “exceptional” in light of this finding.

In light of the extraordinary circumstances presented here, this Court should hold that, as a matter of law, this case is “extraordinary” under Section 285. Such a holding is justified to conserve judicial resources and to avoid another potential appeal on that issue, particularly given the private and public resources already expended on this meritless case.

* * *

The district court’s reasoning on the “prevailing party” question was infected by legal error. *See, e.g., Rothschild Connected Devices Innovations, LLC v. Guardian Prot. Servs., Inc.*, 858 F.3d 1383, 1390 (Fed. Cir. 2017) (reversing district court’s Section 285 denial for being premised on legal errors). Under the correct legal standard, Realtek is a prevailing party. *See Life Techs., Inc. v. Clontech Lab’ys, Inc.*, 224 F.3d 1320, 1324 (Fed. Cir. 2000) (“We must reverse a discretionary ruling of the district court when it is premised upon clearly erroneous findings of fact or on a misapplication or misinterpretation of applicable law, or evidences a serious error of judgment.”). And this case is clearly exceptional. The district court’s decision denying fees under Section 285 should be reversed.

II. The district court’s Rule 11 decision was premised on legal errors.

The district court committed two legal errors in denying Realtek’s Rule 11 motion. Either is sufficient to require reversal.

First, Future Link’s counsel filed and maintained the suit despite lacking sufficient basis to allege that the asserted claims read on the accused products. *See Fed. R. Civ. P. 11(b)(3)*. Yet the district court found that the pre-filing investigation was adequate because there was no indication that the accused products did *not* infringe, and further discovery was necessary to establish whether or not they did. This was a clearly erroneous reading of the evidence. More importantly, it also

applied the wrong standard. Before filing suit, counsel must have an affirmative indication that a product is at least “likely” to infringe; failing to find support for *non-infringement* is not enough.

Second, as the district court recognized, Future Link had an “improper motive” in bringing the case, Appx00017—namely, to collect payment from Realtek’s rival, MediaTek, under a contract aimed solely at imposing costs on Realtek. Yet the district court found sanctions under Rule 11(b)(1) to be foreclosed because Future Link’s counsel, despite having at least constructive knowledge of the improper agreement, would not personally have been (directly) enriched by it. See Appx00012. According to the district court, an improper purpose could therefore not have been the but-for cause of the suit. *Id.* That reasoning is logically and legally faulty.

A. Rule 11(b)(3) requires “evidentiary support” for factual contentions—the absence of evidence disproving those contentions is not enough.

Rule 11(b)(3) requires that factual allegations in a complaint have “evidentiary support” or are “likely” to have such support “after a reasonable opportunity for further investigation or discovery.” In a suit for patent infringement, this requires plaintiff’s counsel, before filing suit, “to compare the accused device with the construed patent claims.” *Antonious v. Spalding & Evenflo Cos.*, 275 F.3d 1066, 1073 (Fed. Cir. 2002).

Future Link does not contend that its counsel examined or attempted to acquire any accused product before filing its original complaint. This is despite Future Link's own allegations, made in its First Amended Complaint, that the accused products can readily be purchased domestically on Amazon. Appx00233-37. In fact, months *after* Future Link filed its original complaint, it appears to have bought three such devices on Amazon for just over \$700. Appx00237 ¶ 9, Appx00258. But even then, Future Link has not asserted that its counsel ever tried to examine or reverse-engineer any accused products to assess whether they infringe.

Instead, Future Link's infringement allegations were based on its counsel's review of Realtek's website and of third-party technical documents published by ARM, which designed the CPU in Realtek's RTD1295, the only accused product named in the original complaint or described in Future Link's infringement contentions.⁴ Those sources indicated that (1) the Realtek RTD1295 includes an ARM Cortex-A53 quad-core CPU, Appx00049; (2) the ARM Cortex-A53 bus interface supports either the AMBA 4 ACE or the AMBA 5 CHI bus architecture,

⁴ In its First Amended Complaint, Future Link added five new products to its list of exemplary accused products. Appx00239 ¶ 19. But the First Amended Complaint did not attach a revised claim chart to include these products, nor did Future Link's infringement contentions do anything more than list them, *see* Appx02047, apparently assuming (without indicating any factual basis) that they were no different in any pertinent way from the RTD1295.

Appx00050; and (3) the ARM AXI4 protocol optionally allows for QoS signaling, Appx00059.

Future Link's infringement allegations depended on the presence of the QoS signal that is an optional configuration supported by the AXI4 protocol. *See* Appx00058-66. But as Realtek demonstrated to the district court, those same documents showed that the accused CPU, the Cortex-A53, did not even include QoS signals as an option. *See* Appx02025-31. No QoS signals are included in the list of signals used by the Cortex-A53. *See id.*

The district court nevertheless found that these documents were inconclusive as to whether the accused products included QoS signals (because they did not affirmatively state that QoS signals were not used). Appx00011. Consequently, the court found that Future Link's counsel, by not finding in these documents any indication that the accused products did *not* infringe, had met pre-filing obligations under Rule 11. Appx00010-12.

The district court's reading of the technical documents was clearly erroneous. The Technical Reference Manual for the accused CPU unambiguously excludes any QoS signal from the lists of the signals that it implements. *See* Appx02843-51. Moreover, the district court erred by applying the wrong legal standard, finding that Future Link's counsel conducted a sufficient pre-filing

investigation by not uncovering in these documents any indication that the accused products did *not* infringe.

The plain text of Rule 11 places an affirmative duty on counsel to have “evidentiary support”—or, at a minimum, a basis for “likely” evidentiary support—before bringing a claim. Fed. R. Civ. P. 11(b)(3). Under Fifth Circuit law, the standard is an objective one. *See Whitehead v. Food Max of Miss., Inc.*, 332 F.3d 796, 803-04 (5th Cir. 2003). In a patent case, an objective standard means that “an attorney violates Rule 11(b)(3) when an objectively reasonable attorney would not believe, based on some actual evidence uncovered during the prefilings investigation, that each claim limitation reads on the accused device either literally or under the doctrine of equivalents.” *Antonious*, 275 F.3d at 1074. When an investigation uncovers no evidence one way or the other—for example, because the pre-filing investigation is inadequate—the attorney fails that requirement. *See, e.g., View Eng’g, Inc. v. Robotic Vision Sys., Inc.*, 208 F.3d 981, 986 (Fed. Cir. 2000). A defendant’s refusal to provide pre-filing discovery is no excuse. *Id.*

The district court turned this standard on its head, finding no fault with counsel who (it believed) found enough ambiguity in a technical document not to rule out infringement altogether (as opposed to finding affirmative evidence of infringement). This was despite Future Link’s counsel having made no apparent attempt to secure and examine any of the accused products. Such a standard would

frustrate the purpose of Rule 11, which helps to ensure that a claim has enough of a factual basis to warrant subjecting a defendant to the significant cost of defending a suit. Allowing plaintiffs' counsel to file suits based on nothing more than a **possibility** of infringement—not even a likelihood—would severely exacerbate the extant problem of nuisance suits by patent assertion entities. It would also expose practicing entities to unnecessary and risky discovery. In short, it would eviscerate the protections of Rule 11.

Indeed, this Court has held that pre-filing investigations that are similarly scanty to the one performed here are insufficient under Rule 11. In *Judin v. United States*, for example, the plaintiff and his counsel viewed a device from a distance and noted certain similarities with the plaintiff's invention. 110 F.3d 780, 784 (Fed. Cir. 1997). But they never attempted to obtain and analyze one of the devices, and they remained uncertain at the time of filing whether the devices included two key features on which their infringement allegations relied. *Id.* The Court held that “there [was] no doubt that Judin failed to meet the minimum standards imposed by Rule 11,” and the district court had abused its discretion by ruling that he had. *Id.*

Future Link's counsel performed no more of an investigation than Judin had, nor were they any more certain of the accused products' critical features before filing suit. The district court's finding here—that the pre-filing investigation was

sufficient because of an absence of evidence of non-infringement—similarly warrants reversal.

B. Rule 11 also encompasses an “improper purpose” of a party, not just that of its counsel.

Rule 11(b)(1) requires that an attorney certify, after conducting a reasonable investigation, that a complaint is not being filed “for any improper purpose.” Such improper purposes are not only those that motivate the attorney personally. Sanctions are appropriate if the attorney should have been attentive to evidence that the client’s purpose was improper. *See Mercury Air Grp., Inc. v. Mansour*, 237 F.3d 542, 549 (5th Cir. 2001) (affirming Rule 11 sanctions because of a party’s improper purpose in bringing a baseless suit as a fishing expedition, which should have been known to its counsel).

This makes sense. As officers of the court, attorneys have a duty to ensure that their clients do not abuse the court system. Rule 11(b)(1) would be feckless if, as the district court implicitly held, the rule applied only to an attorney’s personal motivations. Indeed, most improper purposes are those that directly motivate clients, not attorneys. While attorneys might be motivated to make their clients happy, harassing an opposing party, causing unnecessary delay, or bringing meritless litigation are unlikely to yield an attorney any direct personal gain beyond earning or keeping a client’s business. Yet the district court held that Future Link’s counsel did not run afoul of Rule 11(b)(1) “because the \$1 million

would be paid to the client, not to the attorney or the firm.” Appx00012. This was error.

The Fifth Circuit’s “but-for” requirement is not to the contrary, and the district court erred in assuming that it was. Under *FDIC v. Maxxam, Inc.*, 523 F.3d 566, 587 (5th Cir. 2008), filing a paper for an improper purpose is sanctionable under Rule 11 only if that purpose was the but-for cause of the filing. If a paper would not otherwise have been filed, then that requirement is met. The district court held that Future Link’s improper purpose was not the but-for cause of its filing suit since its attorneys were not personally motivated by MediaTek’s \$1 million inducement. Appx00012. That reasoning is fallacious. Future Link’s counsel could not have filed the suit without their client’s instruction to do so. The proper question is whether Future Link would have sued Realtek without the \$1 million inducement. The personal motivations of Future Link’s counsel are not relevant to that question. What matters is whether its counsel correctly certified, “after an inquiry reasonable under the circumstances,” that the suit “is not being presented for *any* improper purpose”—whether the attorney’s or the client’s. Fed. R. Civ. P. 11(b) (emphasis added).

The record fully supports that Future Link would not have brought the suit but for MediaTek’s inducement. Future Link had never sought a license from Realtek, nor was there any indication that Realtek was ever on Future Link’s radar.

See Appx05101 ¶ 8. This is not subject to serious dispute, nor did the district court hold otherwise. Under such circumstances, it was an abuse of discretion for the court to conclude that the \$1 million inducement—which it found to be an “improper motive,” Appx00017—was not the but-for cause of Future Link’s filing suit.

Future Link’s counsel either knew or should have known about their client’s improper reason for wanting to sue Realtek. In a hearing before the district court, Mr. Ledahl, one of Future Link’s lawyers, did not contest that his firm had access to the license agreement that provided for the \$1 million inducement. *See Appx06169 p. 37:10* (“I believe we may have had access to the license.”). While doubting that anyone at his firm “who was working on the complaint” knew about the payment provision, he admitted that his firm routinely reviewed Future Link’s licenses to ensure that it did not sue a licensee. *Id.* p. 37:11-14, 23-25. In other words, Future Link’s counsel likely had access to the license and reviewed it, though they may not have “focused on” the payment provision. *Id.* p. 37:9-10. At a minimum, this establishes counsel’s constructive knowledge of their client’s improper purpose, which is sufficient to warrant sanctions. *See Mercury Air*, 237 F.3d at 549.

In addition, contrary to the district court’s assumption, Appx00012, Rule 11(b)(1) allows sanctions even if a suit is not frivolous, so long as an improper

purpose was the but-for cause of its filing and is “objectively ascertainable.”

Maxxam, 523 F.3d at 580-81 (quoting *Whitehead*, 332 F.3d at 805). The district court itself ascertained that purpose, finding that MediaTek’s \$1 million inducement constituted Future Link’s “improper motive” in bringing the suit.

Appx00017.

The district court denied sanctions under Rule 11 due to its misinterpretation and misapplication of the rule’s legal standards. Even if the relevant factual questions were still open, these errors require reversal. *Raylon, LLC v. Complus Data Innovations, Inc.*, 700 F.3d 1361, 1368 (Fed. Cir. 2012) (“The district court denied Rule 11 sanctions through the lens of an erroneous view of the law, and thus abused its discretion.”).

III. The district court’s Section 1927 decision was incorrect.

In the 1353 case, the district court denied Realtek’s motion under 28 U.S.C. § 1927, under which a court may require an attorney “who so multiplies the proceedings in any case unreasonably and vexatiously” to pay the other party’s costs and fees. Realtek had moved to dismiss Future Link’s original 363 complaint for its clear jurisdictional defects, including the absence of sufficient jurisdictional pleading or effective service. *See Appx00098-131*. These defects were so clear that Future Link did not file a response to Realtek’s motion to dismiss, opting instead to file an amended complaint that attempted (but nonetheless failed) to cure those

defects. But even after filing the amended complaint, Future Link inexplicably filed the 1353 complaint with the very same jurisdictional pleading and defective method of service that fatally infected the original complaint in the 363 case.

The district court found that, because it had not yet announced its intent to dismiss the 363 case on jurisdictional grounds, Future Link’s counsel could not be held responsible for the identical defects in its 1353 complaint. *See Appx00017-18.* That was the wrong standard. An attorney may run afoul of Section 1927 before their litigation tactics are rebuffed by the court. As the Fifth Circuit has recognized, Section 1927 sanctions are appropriate if the attorney exhibits “bad faith, improper motive, or reckless disregard of the duty owed to the court.” *Bryant v. Mil. Dep’t.,* 597 F.3d 678, 694 (5th Cir. 2010) (quoting *Procter & Gamble Co. v. Amway Corp.*, 280 F.3d 519, 525 (5th Cir. 2002)). That standard does not require a prior ruling by the court, and the district court in this case erred by assuming that it did. *See, e.g., Mercury Air,* 237 F.3d at 549 (“[I]t is undeniable that counsel for Mercury unreasonably and vexatiously multiplied this suit’s proceedings by choosing to pursue this lawsuit in the face of such bald evidence that there was no suit to pursue.”).

In the 363 case, the district court denied Realtek’s motion for fees and costs under Section 1927 because it found that “Realtek fail[ed] to offer clear and convincing evidence that meets the Fifth Circuit’s high standard of finding this

litigation meritless.” Appx00014. The court also found that Future Link’s counsel did not vexatiously expand the case because Future Link had abandoned its original infringement theory and asserted a new theory in its First Amended Complaint, and because it promptly dismissed the suit after reaching a settlement with ARM. Appx00014-15.

For the reasons discussed above, *supra* 29-34, the district court erred in finding that the suit was not meritless and that Realtek had failed to establish as much. The district court also erred in excusing Future Link’s counsel based on a new infringement theory in its First Amended Complaint. The First Amended Complaint did not allege such a theory, other than by improperly incorporating an unfiled set of infringement contentions. *See* Appx00231-42; Appx00240 ¶ 22. Regardless, this new theory did not address the fact that, due to the inadequate pre-filing investigation conducted by Future Link’s counsel, there was no evidentiary basis to think that any of the accused products implemented a QoS feature, through the AXI4 or CHI protocols or otherwise. The district court erred by not considering this facet of Future Link’s counsel’s conduct.

IV. The district court abused its discretion by failing to address Realtek’s request for costs under Rule 54(d)(1).

As the prevailing party, *see supra* 22-26, Realtek is entitled to its costs under Rule 54(d)(1). *See Pacheco v. Mineta*, 448 F.3d 783, 793-94 (5th Cir. 2006) (“Rule 54(d)(1) contains a strong presumption that the prevailing party will be awarded

costs.”); *B.E. Tech., LLC v. Facebook, Inc.*, 940 F.3d 675, 677 (Fed. Cir. 2019) (holding that the “prevailing party” term in Rule 54(d)(1) and 35 U.S.C. § 285 are interpreted consistently). “[A] court ‘may neither deny nor reduce a prevailing party’s request for cost without first articulating some good reason for doing so.’” *Pacheco*, 448 F.3d at 794 (quoting *Schwarz v. Folloder*, 767 F.2d 125, 131 (5th Cir. 1985)). The district court broke this rule when it failed to address, and thus de facto denied, Realtek’s request for costs. Its order should be reversed with instruction to award Realtek its costs on remand.

V. The district court improperly hamstrung Realtek’s efforts to vindicate its rights by overly protecting non-confidential information.

A. The district court abused its discretion by publishing an excessively redacted version of its Omnibus Order.

The district court abused its discretion by publishing an excessively redacted version of its Omnibus Order, burdening Realtek’s effort to pursue legal remedies. District courts have “broad discretion” with respect to discovery. *Scott v. Monsanto Co.*, 868 F.2d 786, 793 (5th Cir. 1989). But such discretion is not unlimited, and when a district court abuses that discretion, an appellate court may, and does, intervene. *Id.* The Fifth Circuit has held that “a district court abuses its discretion in sealing or unsealing documents when it fails to identify and apply the proper legal standard and when it fails to provide sufficient reasons for its decision to enable appellate review.” *Juno Med. Servs.*, 22 F.4th at 519 (citing *United States v.*

Sealed Search Warrants, 868 F.3d 385, 396-97 (5th Cir. 2017); *SEC v. Van Waeyenberghe*, 990 F.2d 845, 848-49 (5th Cir. 1993)).

The proper legal standard for determining whether judicial records should be sealed is an “arduous” one. *Binh Hoa Le v. Exeter Fin. Corp.*, 990 F.3d 410, 420 (5th Cir. 2021). The district court must conduct a “‘document-by-document,’ ‘line-by-line’ balancing of ‘the public’s common law right of access against the interests favoring nondisclosure.’” *June Med. Servs.*, 22 F.4th at 521 (quoting *Le*, 990 F.3d at 419); *see also Bradley ex rel. AJW v. Ackal*, 954 F.3d 216, 225 (5th Cir. 2020). “[C]ourts should be ungenerous” in sealing judicial records, and any sealing that must be “congruent to the need.” *June Med. Servs.*, 22 F.4th at 521 (quoting *Le*, 990 at 418, 420).

The district court failed both to articulate the legal standard that guided its decision-making and to provide a sufficiently detailed rationale such that this Court may conduct a meaningful review. Though the district court allowed the parties in the discovery hearing to debate the merits of redacting some individual portions of documents, there was no systematic, “‘document-by-document,’ ‘line-by-line’ balancing” of competing interests, and the district court dismissed Realtek’s arguments about public access to the records immediately upon being raised. Appx06188 at 6:20-7:1. Furthermore, the district court never clarified in either the hearing or the final order which legal standard applied. In the Discovery Order,

after describing both parties' positions, the district court stated only that, “[h]aving considered the parties' submissions and oral arguments, the Court DENIES Defendant's requested relief.” Appx00027.

Moreover, the Fifth Circuit has been especially loath to uphold an order to seal when it leaves the party challenging the order with a reduced ability to pursue relief. *See, e.g., United States v. Holy Land Found. for Relief*, 624 F.3d 685, 690 (5th Cir. 2010) (overturning an order to seal because the district court did not explain its rationale and the order left the moving party “hamstrung in its ability to mitigate the damage done”). But this discovery order does precisely that. The upshot of the district court’s failure to correctly balance the relevant interests is not only that the public is denied access to records of importance, but that Realtek is robbed of a remedy.

Because the district court failed to identify and apply the proper legal standard, and to conduct the robust balancing test required by that standard, it abused its discretion in publishing an excessively redacted version of its Omnibus Order.

B. The district court abused its discretion by declining to grant Realtek narrow relief from the protective order.

Protective orders sealing documents produced in discovery require a finding of “good cause” by the district court, rather than a balancing test. *See Le*, 990 F.3d at 419. But, as with decisions to seal judicial records, the “working presumption” is

that such documents should not be sealed. *Id.* And “[t]he party seeking protection bears the burden of demonstrating that there is good cause for restricting the disclosure of the information at issue.” *In re Violation of Rule 28(d)*, 635 F.3d 1352, 1357 (Fed. Cir. 2011). Future Link failed to meet that burden, and the district court abused its discretion by not granting Realtek’s requested exemptions from the interim protective order.

1. *Future Link failed to provide good cause to deny Realtek’s request to disclose a limited portion of the MediaTek license agreement to in-house counsel.*

Future Link failed to show good cause for denying Realtek’s request to disclose a limited portion of the MediaTek license agreement to its in-house counsel to explore potential legal remedies. Future Link argued that the district court should deny Realtek’s narrow request because the portion of the MediaTek license agreement at issue contained “confidential and sensitive information that would provide a competing party with a competitive advantage.” Appx06190 at 14:6-8. But Future Link failed to explain how disclosing the portions that Realtek wanted to share with in-house counsel—with the payment amount redacted, no less, *see* Appx06189 at 12:1-3—would competitively harm Future Link’s interests.

Future Link also argued that the district court should deny the request because the International Trade Commission had previously denied a similar request. *See* Appx06190 at 15:25-16:13. Yet it was the ITC that doubted the

agreement could “possibly be lawful,” Appx05603—the very reason that Realtek would like to disclose this information to its in-house counsel in order to direct the prosecution of its legal remedies most effectively and to make fully informed decisions.

Given that the “working presumption” is that such documents should not be protected, and that Future Link failed to make a persuasive showing for protecting this portion of the license agreement from Realtek’s own in-house counsel, the district court erred in denying Realtek’s reasonable request. More specifically, the district court lacked evidence to make “a finding of ‘good cause’” for protecting this document from Realtek’s in-house counsel. *June Med. Servs.*, 22 F.4th at 521 (quoting *Le*, 990 F.3d at 419). Failing to properly apply the correct legal standard to the facts in this case constitutes an abuse of discretion. *See Bradley*, 954 F.3d at 224 (5th Cir. 2020).

2. Future Link failed to provide good cause to deny Realtek’s request to disclose sealed documents to outside counsel who have not entered an appearance.

Future Link similarly failed to show good cause for denying Realtek’s request to disclose certain materials produced in discovery to outside counsel who had not entered appearances. Future Link focused its argument on the need for outside counsel to be subject to the court’s jurisdiction and emphasized that filing an appearance would pose a minimal burden on outside counsel. Appx06209-10.

This remains untrue—in addition to the associated fees and costs, requiring all outside counsel to enter appearances subjects to public scrutiny Realtek’s attorney-client relationships, harming its interest in obtaining related legal advice confidentially, should it wish to do so.

Regardless, Future Link was required to demonstrate good cause for protecting the documents at issue, not simply a lack of serious burden to Realtek. Even if Future Link were correct that public disclosure of the \$1 million inducement from MediaTek would put it at a competitive disadvantage, this rationale does not extend to disclosure to outside counsel who offer related advice to Realtek. In the absence of good cause, the district court abused its discretion in denying Realtek’s narrow request.

CONCLUSION

For the foregoing reasons, Realtek respectfully asks that the Court (1) reverse the district court’s orders denying fees and costs under 35 U.S.C. § 285, Rule 11, 28 U.S.C. § 1927, and Rule 54(d)(1); and (2) reverse the district court’s Discovery Order.

Date: November 14, 2023

Respectfully submitted,

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ADDENDUM

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U.S. Patent No. 7,917,680	Appx36-46

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

**FUTURE LINK SYSTEMS, LLC,
*Plaintiff,***

-V-

**REALTEK SEMICONDUCTOR
CORP.,**
Defendant.

Case No. 6:21-cv-00363-ADA

**FUTURE LINK SYSTEMS, LLC,
*Plaintiff.***

-V-

**REALTEK SEMICONDUCTOR
CORP.,**
Defendant.

Case No. 6:21-cv-01353-ADA

SEALED OMNIBUS ORDER AND MEMORANDUM OPINION

This opinion memorializes the Court’s decisions on four motions in a pair of cases between Future Link Systems, LLC (“FLS” or “Plaintiff”) and Realtek Semiconductor Corp. (“Realtek” or “Defendant”). The *Future Link Sys. LLC v. Realtek Semiconductor Corp.* cases include 6:21-cv-00363 (W.D. Tex. Apr. 13, 2021) (hereinafter “363 Case”) and 6:21-cv-01353 (W.D. Tex. Dec. 22, 2021) (hereinafter “1353 Case”). The motions include: Defendant Realtek Semiconductor Corp.’s Motion For Sanctions Under FED. R. CIV. P. 11, 363 Case, ECF No. 39 (hereinafter “Rule 11 Mot.”); Defendant Realtek Semiconductor Corp.’s Motion For Attorneys’ Fees and Costs, 363 Case, ECF No. 56 (hereinafter “363 Fees Mot.”); and Defendant Realtek Semiconductor Corp.’s Motion For Attorney’s Fees, 1353 Case, ECF No. 16 (hereinafter “1353 Fees Mot.”). The Court held oral arguments for both cases on April June 3, 2022. 363 Case, ECF No. 76 (hereinafter

“Transcript”). After considering the briefing and oral arguments, the Court **GRANTS-IN-PART** and **DENIES-IN-PART** the pending motions.

I. BACKGROUND

A. Case No. 6:21-cv-00363

On April 13, 2021, FLS filed its first complaint alleging that Realtek products infringe U.S. Patent No. 7,917,680 (hereinafter “’680 Patent”). 363 Case, ECF No. 1 (hereinafter “363 Complaint”). In the 363 Complaint, FLS alleges that Realtek products infringe at least Claim 1 of the ’680 Patent because the accused products include a Quality-of-Service (“QoS”) feature implemented in the AXI4 bus protocol specification. Rule 11 Mot. at 13–14. The AXI4 protocol includes packet data ordering that allegedly infringes the ’680 Patent. ECF No. 1-2.¹

On June 24, 2021, Realtek moved to dismiss under Rule 12(b)(2) and 12(b)(5). 363 Case, ECF No. 13 (hereinafter “363 Original MTD”). In the 363 Original MTD, Realtek argued for dismissal based on improper service and lack of personal jurisdiction. *Id.* at 2. Further, Realtek argued that FLS failed to identify any Realtek products that use the infringing technology. *Id.*

Without filing a response to Realtek’s 363 MTD, FLS filed its First Amended Complaint on July 15, 2021. 363 Case, ECF No. 18 (hereinafter “FAC”). In addition to addressing the jurisdictional issues of the 363 Complaint, the FAC specifically identified at least six Realtek products that allegedly infringed Claims 1, 7, 8, 15, and 20 of the ’680 Patent. *See generally* FAC. The FAC alleges that the accused products may include the ARM AMBA AXI4 (“AXI4”) and/or the ARM AMBA CHI (“CHI”) systems. *Id.*

¹ Despite the complexity of this technology and the need for the Court to delve into technical specifications, the parties did not request the appointment of a technical advisor. 363 Case, ECF No. 14 at 2.

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Realtek then filed a renewed motion to dismiss (“363 Renewed MTD”) on July 29, 2021. 363 Case, ECF No. 20. Like the 363 Original MTD, the 363 Renewed MTD argued for dismissal based on improper service and lack of personal jurisdiction. *See Generally* 363 Renewed Mot. To Dismiss. Realtek argued that the FAC did not remedy the jurisdictional issues of the 363 Complaint and that the lack of factual support for the additional allegations presented in the FAC calls into question whether FLS has a basis under Rule 11 for its sustained allegations. *Id.* at 2.

FLS responded to Realtek’s 363 Renewed MTD by arguing that there is at least a *prima facie* basis for personal jurisdiction under the stream-of-commerce theory and that personal service was made upon an authorized agent of Realtek, so FLS complied with Federal Rule 4(h). 363 Case, ECF No. 23. Alternatively, FLS requested that it be allowed to take discovery concerning Realtek’s commercial activities in and directed at this district if the Court were to find that FLS failed to make a showing a *prima facie* basis of personal jurisdiction. *Id.* at 11. Further, to the extent that its service of process was not proper under Rule 4(h), FLS requested that the Court grant FLS leave to effect alternative service. *Id.* at 14–15.

On October 26, 2021, Realtek served FLS with the motion for Rule 11 sanctions. Rule 11 Mot. at 6. Realtek’s notice explained that FLS’s infringement allegations were objectively baseless, which a reasonable pre-suit investigation would have revealed. *Id.* at 5–6. Realtek then filed its Rule 11 Motion with this Court on November 18, 2021. Rule 11 Mot.

B. Case No. 6:21-cv-01353

On December 22, 2021, FLS filed a complaint in the 1353 Case, alleging infringement of at least one Claim of both U.S. Patent Nos. 8,099,614 (“614 Patent”) and 7,685,439 (“439 Patent”) by Realtek products that use ARM Cortex A-53. 1353 Case, ECF No. 1 (hereinafter “1353

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Complaint"). The 1353 Complaint stated the same basis for personal jurisdiction and proper service as the 363 Complaint. *Id.*

On March 4, 2022, Realtek filed its motion to dismiss ("1353 MTD") under Rule 12(b)(2), 12(b)(5), and 12(b)(6). Realtek argued that the same jurisdictional and service issues present in the 363 Complaint warrant dismissal of the 1353 Complaint. *See generally* 1353 MTD. Additionally, Realtek argued that FLS failed to present factual support of Realtek's use of the patented method, which is required to prove infringement of a method claim. 1353 MTD at 14. Further, Realtek argued that Claim 1 of the '614 Patent requires joint infringement, and FLS failed to plead a joint infringement theory. 1353 MTD at 16.

C. Facts Overlapping the 363 Case and the 1353 Case

On March 30, 2022, this Court issued a text order granting Realtek's motion to stay until the Court issued a full written decision on Realtek's 363 MTD because the Court would rule in favor of Realtek on at least argument raised in that motion.

On March 31, 2022, FLS entered into a confidential license agreement [REDACTED] and with other parties in related cases. Opposition To Fees Mot. at 3. Because the license with [REDACTED] covers accused Realtek products that use [REDACTED], FLS considered the case against Realtek to be resolved. *Id.* Five days later, FLS voluntarily dismissed both cases without prejudice on April 4, 2022. *Id.* At the time, Realtek remained unaware of the settlement. To Realtek, FLS's voluntary dismissals appeared like an attempt to distance itself from frivolous cases in view of the Court's March 30, 2022, text order.

On April 18, 2022, Realtek filed motions for attorneys' fees and costs in both cases. 363 Fees Mot.; 1353 Fees Mot. The motions asked this Court to award fees and costs under 35 U.S.C. § 285, 28 U.S.C. § 1927, and the Court's inherent authority. 363 Fees Mot. at 9, 15–17.

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Two weeks prior to the voluntary dismissal, FLS produced a licensing agreement it entered

[REDACTED] . 363 Case, ECF No. 56-2 at ¶ 6; 363 Case, ECF No. 56-3 at 29 (“Payment Terms”).

The Payment Terms required [REDACTED]

[REDACTED] Payment Terms at 29. [REDACTED] and Realtek compete in the semiconductor industry. 363 Fees Mot. at 1. Realtek argues that the [REDACTED] included in the Payment Terms was an attempt by [REDACTED] [REDACTED] between itself and its competitor Realtek. *Id.*

Realtek filed motions alleging violations of Rule 11 of the Federal Rules of Civil Procedure and requesting fees and costs. Realtek alleges that FLS filed an objectively baseless patent infringement suit, motivated by bad faith. Rule 11 Mot. at 6–7. Realtek further argues that FLS avoided responding to Realtek’s concerns or communications and refused to address the issues with its allegations. *Id.* at 7–8. Realtek requests that the Court dismiss the case, award Realtek its reasonable attorney fees and other expenses, disgorge [REDACTED], and/or allow additional discovery. *See generally* Rule 11 Mot.; *see generally* 363 Fees Mot.

II. LEGAL STANDARDS

A. Rule 11

Under Rule 11, by signing, filing, submitting or later advocating the pleading, motion or paper, an attorney represents that “to the best of the person’s knowledge, information and belief, formed after an inquiry reasonable under the circumstances, . . . (2) the claims, defenses, and other legal contentions therein are warranted by existing law or by a nonfrivolous argument for extending, modifying, or reversing existing law” Fed. R. Civ. P. 11(b).

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Further, by presenting to the court a written pleading, the attorney certifies that it is not being presented for any improper purpose. Fed. R. Civ. P. 11(b)(1). A court cannot impose sanctions for improper purpose alone unless the claim would not have been pursued “but for” said improper purpose. *F.D.I.C. v. Maxxam*, 523 F.3d 566, 583 (5th Cir. 2008). “[I]nsisting that a claim of improper purpose in the prosecuting of a claim contain an element of causation—that the claim would not otherwise have been pursued—in no way undermines this court’s insistence that improper purpose is an independent requirement of Rule 11. It rather insists that an improper purpose cannot stand on its own if it lacks this but—for causative force.” *Id.* If a reasonably clear legal justification can be shown for the filing of the paper in question, no improper purpose can be found and sanctions are inappropriate. *National Ass’n of Gov’t Employees, Inc. v. National Federation of Federal Employees*, 844 F.2d 216, 223-24 (5th Cir. 1988).

Rule 11 motions are decided under regional circuit law. *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 873 (Fed. Cir. 2010). In the Fifth Circuit, courts determine whether there was a Rule 11 violation under “an objective, not subjective standard of reasonableness under the circumstances.” *Raylon, LLC v. Complus Data Innovations, Inc.*, 700 F.3d 1361, 1367 (Fed. Cir. 2012). “Thus, an attorney violates Rule 11(b)(3) when an objectively reasonable attorney would not believe, based on some actual evidence uncovered during the prefiling investigation, that each claim limitation reads on the accused device.” *Antonious v. Spalding & Evenflo Companies, Inc.*, 275 F.3d 1066, 1074 (Fed. Cir. 2002). Upon determining that Rule 11(b) has been violated, a court may impose appropriate sanctions either on its own motion or after proper motion by a party. FED. R. CIV. P. 11(c).

B. 35 U.S.C. § 285

35 U.S.C. § 285 provides that “[t]he court in exceptional cases may award reasonable attorney fees to the prevailing party.” The statute imposes “one and only one constraint on district courts’ discretion to award attorney’s fees in patent litigation: The power is reserved for ‘exceptional’ cases.” *Octane Fitness, LLC v. ICON Health and Fitness, Inc.*, 572 U.S. 545, 552 (2014). The determination of the prevailing party is not subject to the court’s discretion. “By its terms, [§ 285] requires that the recipient of attorney fees be a ‘prevailing party.’” *RFR Indus., Inc. v. Century Steps, Inc.*, 477 F.3d 1348, 1353 (Fed. Cir. 2007).

A party “prevails” when it receives “relief on the merits” that “materially alters the legal relationship between the parties by modifying” the defendant’s behavior in a way that “directly benefits” the plaintiff. *SSL Servs., LLC v. Citrix Sys., Inc.*, 769 F.3d 1073, 1086 (Fed. Cir. 2014). Voluntary dismissal of a case precludes prevailing party status. *O.F. Mossberg & Sons, Inc. v. Timney Triggers, LLC*, 995 F.3d 990 (Fed. Cir. 2020).

C. 20 U.S.C. § 1927

20 U.S.C. § 1927 provides in part that an attorney “who so multiplies the proceedings in any case unreasonably and vexatiously may be required by the court to personally satisfy the excess costs, expenses, and attorneys’ fees reasonably incurred because of such conduct.” 20 U.S.C. § 1927.

Sanctions under Section 1927 are punitive in nature and require “clear and convincing evidence, that *every facet* of the litigation was patently meritless” and “evidence of bad faith, improper motive, or reckless disregard of the duty owed to the court” and the “persistent prosecution of a meritless claim.” *Bryant v. Military Department of Mississippi*, 597 F.3d 678, 694 (5th Cir. 2010) (citing *Procter & Gamble Co. v. Amway Corp.*, 280 F.3d 519, 525–26 (5th Cir.

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2002)). Further, Section 1927 has a higher threshold for culpability than Rule 11. *Bryant*, 597 F.3d 678, 694 (5th Cir. 2010).

D. The Court’s Inherent Power to Sanction

Federal courts have “inherent powers,” not conferred by rule or statute, to sanction “for conduct which abuses the judicial process.” *Goodyear Tire and Rubber Co. v. Haeger*, 137 S.Ct. 1178, 1186 (2017) (citing *Chambers v. NASCO, Inc.*, 501 U.S. 32, 45-46 (1991)). This authority includes the power to assess attorneys’ fees “when a party has acted in bad faith, vexatiously, wantonly, or for oppressive reasons.” *Chambers*, 501 U.S. 32, 45-46 (1991). Further, outright dismissal of the lawsuit is within the Court’s discretion under its inherent powers. *Chambers*, 501 U.S. 32, 45 (1991) (citing *Roadway Exp., Inc. v. Piper*, 447 U.S. 752, 765 (1980)). “When a party’s deplorable conduct is not effectively sanctionable pursuant to an existing rule or statute, it is appropriate for a district court to rely on its inherent power to impose sanctions.” *Toon v. Wackenhut Corrections Corp.*, 250 F.3d 950, 952 (5th Cir. 2001).

III. ANALYSIS OF THE 363 CASE

A. Rule 11 Motion (ECF No. 39) is DENIED.

In this motion, Realtek seeks dismissal of the case and attorneys’ fees as sanctions under Rule 11 against FLS. Rule 11 Mot. The Court **DENIES** the motion for Rule 11 sanctions.

Parties’ Positions

Realtek argues that the Court should grant Rule 11 sanctions against FLS’s counsel. First, Realtek reasons that FLS failed to support the patent infringement allegations from their 363 Complaint with sufficient facts, despite FLS’s obligation to perform a reasonable pre-suit

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investigation. Rule 11 Mot. at 8.² Direct infringement cannot exist unless the accused party makes, uses, sells, or offers to sell the patented invention within the United States, or imports the patented invention into the United States. 35 U.S.C. § 271(a). Realtek argues that a pre-suit investigation should have revealed that Realtek does not conduct any business in the United States. Rule 11 Mot. at 8. When challenged, rather than supporting their 363 allegations, FLS filed its amended complaint alleging sales through third parties. *Id.* Therefore, Realtek argues that FLS and its counsel violated Rule 11 by filing and persisting in the meritless claims.

FLS responds that the First Amended Complaint contains evidence sufficient to support direct infringement. 353 Case, ECF No. 41 at 4–5 (hereinafter “Opposition To Rule 11 Mot.”). Specifically, Realtek demonstrated and offered for sale at least one of the Accused Products in the United States at the 2018 CES trade show in Las Vegas, Nevada. *Id.* at 7. Further, Realtek did not provide any evidence to demonstrate that there was no infringement despite multiple requests from FLS. *Id.* at 5.

Additionally, Realtek argues that FLS’s allegations in the 363 Complaint are directly refuted by technical documents that FLS relied on. Rule 11 Mot. at 9. Realtek argues that those technical documents indicate that the QoS feature of the AX14 bus protocol, which FLS alleges is the infringing feature, does not exist on Realtek’s accused chips. *Id.* Realtek also argues that FLS’s infringement allegations regarding CHI protocol in the First Amended Complaint were similarly refuted by the technical documents. In particular, the technical documents indicate that the accused QoS signals are not present in the accused products. *Id.*

² Citation to the page number indicated in the table of contents, which is missing on the pages of the motion.

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FLS counters that it repeatedly told Realtek about the legitimate basis for its claims. Opposition To Rule 11 Mot. at 4. At no point did Realtek make a sworn statement that the accused products do not actually use the accused functionality. *Id.* FLS believed it had evidence sufficient to “permit a reasonable inference that all the accused products infringe.” Opposition To Rule 11 Mot. at 4 (citing *Antonious*, 275 F.3d at 1075).

Finally, Realtek argues that FLS’s act of filing this case for an improper purpose allows the Court to issue sanctions under Rule 11(b)(1). Transcript at 9, line 23–25. Realtek argues that FLS instituted this frivolous litigation for the improper purpose [REDACTED] Transcript at 10, line 3–8. Realtek argues that allowing such [REDACTED] will incentivize plaintiffs to weaponize the courts and filing frivolous cases against competitors. Transcript at 9, line 14–19.

FLS counters that the [REDACTED] was not the but-for cause of the filing. Transcript at 29, line 10. The meritorious nature of the case of patent infringement by Realtek, not the [REDACTED], motivated FLS’s counsel to file these cases. Transcript at 29, line 19–30, line 14. FLS’s counsel does not typically conduct an investigation into the motivations behind the litigant and did not meaningfully consider the [REDACTED] in the assignment. Transcript at 29:13–15, 36:8–37:22. Although FLS [REDACTED], FLS’s counsel independently evaluated the merits of this case. *Id.* After all, the [REDACTED], not to FLS’s counsel.

The Court’s Analysis

The Court holds that counsel for FLS did not violate Rule 11 of the Federal Rules of Civil Procedure. Counsel for FLS conducted their own investigation and concluded that the claims had merit. In particular, counsel found that there was an optional feature which, if active, would have plausibly infringed the asserted patent. FLS’s counsel met their Rule 11 obligations by investigating the optional feature and believing it was active.

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On their own, the underlying technical documents do not make it immediately clear that the product does not infringe. Ultimately, FLS's counsel needed additional details from Realtek's counsel and/or discovery to confirm that the accused products did not implement the option feature. In particular, the ARM AMBA AXI and ACE Protocol Specification notes that the QoS signals are optional. 363 Case, ECF No. 39-10 (hereinafter "AXI Spec").

For example, Realtek argues that the ARM Technical Reference Manual ("TRM") proves that the accused product "cannot be configured as an AXI4 interface—instead it is either an ACE or CHI interface." Rule 11 Mot. at 9 n.8 (citing 363 Case, ECF No. 39-9 § 1.2.2 (hereinafter "TRM")). The cited document states, "The Cortex-A53 bus interface natively supports . . . AMBA 4 ACE bus architecture. See the . . . *ACE Protocol Specification XAI3, AXI4. . .*" This cited technical reference manual does not make clear that AXI4 is not supported as argued by Realtek. Instead, the technical reference manual suggests that the AMBA 4 ACE bus architecture is related to AXI4 in some way.

The TRM provides a list of "ACE interface signals." TRM § A.11. This list does not include the accused QoS signal, so Realtek argues that FLS failed to conduct a reasonable pre-suit investigation. But this list also does not affirmatively indicate that the accused QoS signal is disabled or unsupported. Instead, it instructs the reader that, "[f]or a complete description of the ACE interface signals, see the . . . *ACE Protocol Specification XAI3, AXI4 . . .*" *Id.* In isolation, this section is inconclusive as to whether the QoS signal is supported. Ultimately, FLS needed additional discovery and a technological explanation from Realtek to determine that the accused QoS signal is not present.

The Court further finds that FLS's counsel committed no Rule 11 violations by filing the First Amended Complaint. FLS's counsel met their Rule 11 obligations by doing a pre-suit

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investigation. As a result of that investigation, FLS's counsel reasonably believed that the accused products might infringe because the optional feature was turned on. That is sufficient to meet the requirements laid out in Rule 11, regardless of the ultimate outcome of the case.

Further, the Court finds that an improper purpose was not the but-for cause of FLS's counsel filing the 363 Complaint. Regardless of whether the [REDACTED] motivated the client FLS, that [REDACTED] was not the but-for cause of FLS's counsel's actions. There is no incentive for counsel to file a meritless case because [REDACTED]

[REDACTED] The Court finds Mr. Ledahl's representations on this issue credible. Transcript at 35, line 20–36, line 16. Moreover, although the contract *allowed* for a frivolous case, FLS did not choose to file a frivolous case. FLS filed a plausible patent infringement case based on what it believed to be an implemented, optional feature of a standard. [REDACTED] non-frivolous settlement payment shows that another serious party believed the case be non-frivolous.

For these reasons, the Court **DENIES** Realtek's motion for Rule 11 sanctions.

B. Motion For Attorneys' Fees Under 35 U.S.C. § 285 (ECF No. 56) is DENIED.

In this motion, Realtek seeks attorneys' fees under 35 U.S.C. § 285 on the grounds that Realtek is a prevailing party and that Case No. 6:21-cv-00363 is exceptional. 363 Fees Mot. The Court **DENIES** this part of the motion for attorneys' fees.

Parties' Positions

Realtek acknowledges that a voluntary dismissal without prejudice does not give Realtek prevailing party status. Instead, Realtek argues that this Court's text stay order and the voluntary dismissal taken together renders it a prevailing party. 363 Fees Mot. at 14. Realtek also argues that a decision on the merits of the case is not required to find a material alteration in the legal relationship of the parties. *Id.*

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FLS responds that this dismissal, pursuant to Federal Rule 41(a)(1)(A)(i), does not confer prevailing party status as a matter of law. 363 Case, ECF No. 65 at 4 (hereinafter “Opposition To 363 Fees Mot.”) Additionally, FLS argues that the Court’s stated intent to grant Realtek’s motion to dismiss does not create a material alteration in the legal relationship of the parties. *Id.* FLS notes that even if the dismissal had been ordered by the Court, the dismissal without prejudice does not alter the legal relationship of the parties to make Realtek the prevailing party. *Id.* at 5-7.

The Court’s Analysis

The Court denies Realtek’s motion for attorneys’ fees under 35 U.S.C. § 285. This case was voluntarily dismissed under Federal Rule 41(a)(1)(A)(i) before any ruling on its merits. As a matter of law, this Court’s stay order and its intent to dismiss a first complaint on jurisdictional grounds do not confer prevailing party status.

Neither party gained “prevailing party” status in this case because neither party received relief based on the merits, and the voluntary dismissal did not alter the legal relationship of the parties. Moreover, the Court could not have ruled on the merits of this case because Realtek’s motion to dismiss sought dismissal based on procedural and jurisdictional grounds. *See Generally* 363 Dismissal Mot. An opinion on the Court’s lack of jurisdiction of this case does not alter the legal relationship of the parties. Because the Court was preparing its first ruling on a motion to dismiss, the Court would have granted FLS at least once chance to amend and/or cure any procedural or jurisdictional defects, so the parties would have still remained at the pleading stage in this case. Ultimately, FLS dismissed the above-captioned cases because FLS entered into a settlement agreement [REDACTED], and the settlement agreement covered Realtek’s use of [REDACTED] in the accused products.

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Because Realtek is not a prevailing party, this Court does not reach the issue of whether this case is “exceptional” as required by 35 U.S.C. § 285. Therefore, this Court **DENIES** this part of Realtek’s motion for attorneys’ fees under § 285.

C. Motion For Attorneys’ Fees and Costs Under 20 U.S.C. § 1927 (ECF No. 56) is DENIED.

Realtek argues that it is entitled to attorneys’ fees and costs under 20 U.S.C. § 1927 because FLS’s counsel multiplied the proceedings in this case unreasonably and vexatiously. 363 Fees Mot. The Court **DENIES** this part of the motion for fees.

Parties’ Positions

Realtek argues that FLS and its counsel engaged in a bad-faith and baseless effort [REDACTED] [REDACTED]. 363 Fees Mot. at 16. Realtek argues that FLS’s 363 Complaint was based on a flawed patent infringement theory, and by amending that complaint to include a new theory of infringement, FLS unreasonably and vexatiously multiplied these proceedings. *Id.* at 16.

FLS responds that Realtek offered nothing but conclusory assertions. Opposition to 363 Fees Mot. at 14. FLS argues that Realtek has failed to provide evidence to meet the clear and convincing standard. *Id.* Further, FLS contends that Realtek’s arguments are misplaced in that they are not directed at the merits of the case. *Id.* FLS counters that their actions have not unnecessarily multiplied proceedings. *Id.* at 14–15. In fact, FLS asserts that Realtek has multiplied proceedings by pursuing discovery motion practice after this Court had Stayed this case. *Id.*

The Court’s Analysis

This Court denies Realtek’s motion for attorneys’ fees under 35 U.S.C. § 1927. Realtek fails to offer clear and convincing evidence that meets the Fifth Circuit’s high standard of finding this litigation meritless. Moreover, nothing shows that FLS persisted in litigation or vexatiously

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multiplied the proceedings. After Realtek provided a detailed technical explanation to FLS about why the accused products did not use the accused optional QoS feature, FLS responded by amending its 363 Complaint to assert a different infringement theory. The new theory did not rely on the presence of the optional QoS feature. FLS promptly dismissed the case once it finalized a settlement agreement [REDACTED] that covered the accused Realtek products. This settlement and dismissal just happened to align with the Court's text order indicating that the Court would grant at least one form of relief to Realtek. Therefore, this Court **DENIES** Realtek's motion for attorneys' fees and costs under 35 U.S.C. § 1927.

D. Sanctions Under the Court's Inherent Power (ECF No. 56) is GRANTED-IN-PART.

In this motion, Realtek argues for sanctions under the Court's inherent power. In particular, Realtek requests attorneys' fees. The Court **GRANTS-IN-PART** Realtek's motion to sanction FLS under the Court's inherent power but grants other relief.

Parties' Positions

Under the Court's inherent power to sanction, Realtek requests that the Court take two actions. First, Realtek argues that FLS litigated this case vexatiously and in bad faith, so the Court should award full fees and costs to Realtek under the Court's inherent power to sanction. 363 Fees Mot. at 17. Second, Realtek argues that the Court should [REDACTED]

[REDACTED]. *Id.* at 17–18. Realtek argues that [REDACTED]

[REDACTED]. *Id.* at 18–19.

FLS responds that Realtek's arguments fail to meet the standard required to invoke the Court's inherent power. Opposition To 363 Fees Mot. at 15. Further, FLS argues that Realtek failed to demonstrate in any way that the [REDACTED] was improper or illegal. *Id.* at 16. For

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those reasons, the Court should not grant attorneys' fees or disgorgement under its inherent power.

Id.

The Court's Analysis

Under its inherent power, the **Court ORDERS this sanction:** the voluntary dismissal of the case (ECF No. 54) is modified to be a **DISMISSAL WITH PREJUDICE**.

The Court finds that FLS (the party, not its counsel) [REDACTED] that should be discouraged as a matter of public policy. The assignment contains a [REDACTED]
[REDACTED]
[REDACTED]. [REDACTED]
[REDACTED]
[REDACTED] Public policy cuts directly against an agreement of this kind, where a [REDACTED]

Courts discourage this kind of agreement. *See Rodriguez v. W. Pub. Corp.*, No. CV05-3222 R(MCX), 2007 WL 2827379, at *22 (C.D. Cal. Sept. 10, 2007), *aff'd in part, rev'd in part*, 563 F.3d 948 (9th Cir. 2009); *Cf. Johnson v. NPAS Sols., LLC*, 975 F.3d 1244, 1258-60 (11th Cir. 2020) (an incentive payment in the class-action context that amounts to a "bounty" is not lawful).

The Court weighs the improper contract provision against the actions of FLS's attorneys, who ultimately found a reasonable basis for filing this lawsuit and did not actually file a meritless case. As discussed above, FLS's attorneys conducted an independent investigation on the merits of this case and identified certain Realtek products that were believed to implement an optional QoS feature that plausibly infringes the asserted patents. Transcript at 36, line 13–14. When Realtek explained that its products did not implement the optional QoS feature, FLS's attorneys asserted a different infringement theory.

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After filing this case, FLS entered into a settlement agreement [REDACTED] that covers [REDACTED] used in the accused Realtek products. FLS settled with [REDACTED] for an amount sufficient to convince this Court that [REDACTED] did not find FLS's allegations against [REDACTED] to be completely meritless. Shortly after the settlement, FLS dismissed this case.

The Court finds the [REDACTED] warrants sanctions under the Court's inherent power. However, the Court balances FLS's improper motive against the plausible and not objectively unreasonable infringement allegations ultimately brought by FLS's attorneys. Thus, the Court declines to grant Realtek's request for disgorgement and attorneys' fees.

Because FLS argues that a settlement covering the accused Realtek products drove the dismissal of this case, this dispute should not be raised again in any venue. FLS can no longer prevail on infringement due to the license. FLS dismissed lawsuits against other defendants with prejudice after FLS's settlement [REDACTED]. E.g., Joint Motion To Dismiss With Prejudice, *Future Link Systems, LLC v. Qualcomm Inc. et al*, (5th Cir. 2021), Case No. 6:21-cv-0265 (ECF No. 66); Joint Motion To Dismiss With Prejudice, *Future Link Systems, LLC v. Apple, Inc.*, (5th Cir. filed Mar. 16, 2021) Case No. 6:21-cv-0263 (ECF No. 75). Thus, the Court finds it fitting to modify the voluntary dismissal by FLS in this case to similarly be **DISMISSED WITH PREJUDICE**.

IV. ANALYSIS OF THE 1353 CASE

D. Motion For Attorneys' Fees and Costs Under 20 U.S.C. § 1927 (ECF No. 16)

The arguments Realtek presents in the 1353 Case are substantially identical to those presented in subsection III(C) above. Realtek raises only one new argument: FLS improperly brought this case number 6:21-cv-01353 after being put on notice of personal jurisdiction issues in its 363 Complaint. 1353 Fees Mot. at 8. Specifically, Realtek points to FLS copying allegations from the 363 Complaint into the 1353 Complaint. *Id.*

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This Court denies Realtek's motion for attorneys' fees under 35 U.S.C. § 1927. This Court announced its intent to rule in favor of Realtek on at least one issue concerning jurisdiction and procedure in March 2022. FLS filed the 1353 Case in December of 2021. FLS did not know of this Court's intent until after this case was filed, so FLS did not know it filed a pleading with a jurisdictional and procedural problem. Additionally, FLS voluntarily dismissed this case after learning of this Court's intent and did not persist in its litigation. Therefore, this Court denies Realtek's motion for attorneys' fees under 35 U.S.C. § 1927.

E. Sanctions Under the Court's Inherent Power (ECF No. 16) is GRANTED-IN-PART.

For the reasons set forth in the discussion regarding Case No. 6:21-cv-00363-ADA, the Court denies Realtek's motions for attorneys' fees, denies Realtek's motion for [REDACTED]
[REDACTED]. The Court amends the voluntary dismissal of this case to be **DISMISSED WITH PREJUDICE**.

V. CONCLUSION

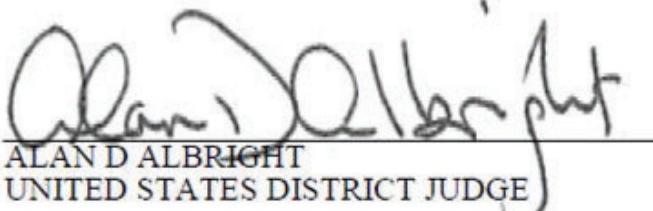
For the reasons above, **IT IS HEREBY ORDERED:**

- Realtek's Rule 11 Mot. in the 363 Case is **DENIED**. 363 Case, ECF No. 39.
- Realtek's 363 Fees Mot. (363 Case, ECF No. 56) is **GRANTED-IN-PART**. Under the Court's inherent power to impose sanctions, the Voluntary Dismissal (363 Case, ECF No. 54) is modified and the 363 Case is now **DISMISSED WITH PREJUDICE**. All other relief in the 363 Fees Mot. is **DENIED**.
- Realtek's 1353 Fees Mot. (1353 Case, ECF No. 16) is **GRANTED-IN-PART**. Under the Court's inherent power to impose sanctions, the Voluntary Dismissal (1353 Case, ECF No. 14) is modified and the 1353 Case is now **DISMISSED WITH PREJUDICE**. All other relief in the 1353 Fees Mot. is **DENIED**.

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- The parties are reminded to comply with the Court's standing order regarding sealed filings.

SIGNED this 12th day of September, 2022.



ALAN D ALBRIGHT
UNITED STATES DISTRICT JUDGE

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**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

FUTURE LINK SYSTEMS, LLC,	§	
	§	C.A. No. 6:21-cv-0363-ADA
Plaintiff,	§	
	§	C.A. No. 6:21-cv-01353-ADA
v.	§	
REALTEK SEMICONDUCTOR CORP.,	§	
	§	
Defendant.	§	

DISCOVERY ORDER

Defendant Realtek Semiconductor Corporation raised the following discovery disputes with the Court by email submission on October 4, 2022. The Court held a hearing on October 5, 2022.

I. Issue Number 1 (Raised by Defendant): Whether Plaintiff Future Link's redactions to the Court's sealed order are excessive, improper, and violate public policy.

Defendants' Position

Counsel for Future Link has proposed redacting not only the name of the contracting party and the amount in the "improper contract," but they have also proposed redacting the entire part of the order saying the contract was improper, why it was improper, and why it is against public policy. *See* Ex. A.

The current presumption is that "judicial records should not be sealed." *Juno Med. Servs., L.L.C. v. Phillips*, 22 F.4th 512, 521 (5th Cir. 2022). The Fifth Circuit states that "to the extent any sealing is necessary, it must be 'congruent to the need.'" *Id.* Moreover, the proponent "must explain in particularity the necessity for sealing." *Trans Tool, LLC v. All State Gear Inc.*, No. SA-19-CV-1304-JKP, 2022 WL 608945, at *6 (W.D. Tex. Mar. 1, 2022). When deciding whether a

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document should be sealed, “the court must undertake a document-by-document, line-by-line balancing of the public’s common law right of access against the interests favoring nondisclosure.” *June Med. Servs.*, 22 F.4th at 521 (internal quotations omitted).

Furthermore, when a case “involves **matters of particularly public interest**,” courts may require a greater showing to overcome the access presumption. *See id.* at 520. Moreover, this Court has required **redactions** of specific information to be made in **good faith**. *See Frantz Design, Inc. v. Diamond Orthotic Lab'y, LLC*, No. 1-19-CV-00970-ADA, 2020 WL 10313920, at *3 (W.D. Tex. Aug. 13, 2020).

In its proposed redactions, Future Link has failed to meet its burden to overcome the strong presumption favoring public access. Realtek agrees to the proposed redaction of [REDACTED]

[REDACTED] on pages 4, 12, 13, 15, and 17. However, Realtek does not agree to redacting information referencing the improper contract (and why it was improper), which by its very nature—being an “improper contract” that the Court found “should be discouraged as a matter of public policy”—cannot constitute trade secret business information. *See Ex. A.*

Having sanctioned Plaintiff because the contract was an “improper contract” that “should be discouraged as a matter of public policy,” the wrongful terms of the contract must be made public to advance the public interest. If Judge Albright’s order remains confidential, it will fail to advance the public interest because the public will not be educated as to why Plaintiff was sanctioned and what types of litigation contracts are improper and should not be entered into. Thus, the entire order should be made public (expecting the few limited redactions regarding [REDACTED] including the names and the parties and the amounts, because that is the only way to both

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(1) advance the public interest regarding improper litigation contracts and (2) deter such improper conduct in the future.

Requested Relief: Order that: the sealed order be made public in accordance with the Court's established precedent, with the minimal exceptions discussed above regarding [REDACTED], and deny Plaintiff's proposed redactions.

Plaintiff's Position

Realtek seeks to declassify details about Future Link's license agreement with non-party [REDACTED]. This is just the latest of many Realtek requests to multiple judicial bodies to declassify details of that agreement. Realtek previously asked this Court to reduce the confidentiality of the agreement to allow access to Realtek's in-house counsel. This Court denied that request. Dkt. # 63. Realtek is appealing that Order. Dkt. #73. Realtek should not be permitted to collaterally attack this Court's prior ruling (now subject to the jurisdiction of the Federal Circuit) through yet another request for the same relief. Realtek also sought declassification of the same agreement before the U.S. International Trade Commission. The ALJ denied Realtek's request. Ex. B. Realtek appealed the ALJ's decision to the full Commission. The Commission rejected Realtek's position. Ex. C. As before, Realtek presents no good cause for its request.

The same subject matter at issue in Realtek's current request was redacted (without objection) from the public versions of the briefs on the motions addressed in the sealed order. The information at issue are specific provisions of a license agreement between Future Link and [REDACTED] – a competitor of Realtek. The agreement recites in its terms that both parties agreed to maintain its confidentiality. As shown in the attached declaration of Future Link's General Manager (previously submitted in ITC proceedings), disclosure of the agreement or its specific provisions, including the provision about which Realtek complains, would cause competitive harm

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to Future Link. Ex. D. Further, the agreement contains confidential information of [REDACTED] a non-party. As discussed above, this Court already rejected Realtek's arguments that the license agreement does not meet the Protective Order's criteria for designation as Outside Counsel Only material. Sealing such information is appropriate. Realtek has provided no reason why public interest is served by disclosing the identity of [REDACTED] or the confidential terms of the agreement.

Realtek's case citations contradict its position. The *June Medical* case, unlike here, involved a finding that records sealed by the district court were already public documents (including a published book) and thus should not have been sealed. *June Medical Services, L.L.C. v. Phillips*, 22 F.4th 512, 518 (2022). In *Trans Tool*, the Court merely criticized the wholesale sealing of various summary judgment exhibits, but indicated that sealing (and redacting) non-public information such as contract terms remained appropriate. *Trans Tool, LLC v. All State Gear Inc.*, 2022 WL 608945, *7-8 (W.D. Tex. Mar. 1, 2022). Likewise in this Court's *Frantz* ruling, the Court held that a license agreement should be restricted from in-house counsel access. *Frantz Design, Inc. v. Diamond Orthotic Laboratory, LLC*. 2020 WL 10313920, *3 (W.D. Tex. Aug. 13, 2020). These cases all confirm that sealing the type of information contained in the focused proposed redactions is entirely appropriate.

Requested Relief: Enter the redactions provided by Future Link. To the extent the Court intends to unseal any proposed redaction, such an order should be stayed pending an opportunity for full evidentiary submission and any appeal of such a ruling.

II. Issue Number 2 (Raised by Defendant): Whether Plaintiff may maintain "Outside Attorneys' Eyes Only" designation on portions of the [REDACTED] FLS License Agreement.

Defendant's Position

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Realtek seeks limited relief from the Protective Order to show its in-house counsel and business decisionmakers the cover page and Schedule B of the Agreement with the numbers redacted.

FLS carries the burden to explain why the Schedule must maintain the confidentiality status. *MariCal Inc. v. Cooke Aquaculture Inc.*, 2018 WL 6304403, at *1 (D. Me. Dec. 3, 2018) (party maintaining confidentiality designation has burden to demonstrate “a particular factual demonstration of potential harm” and cannot rely “on conclusory statements.”). FLS cannot meet its burden of proving that its improper litigation bounty provisions are worthy of trade secret protection.

In contrast, good cause exists for Realtek’s request. Realtek’s decisionmakers require this information to properly evaluate appellate options and other legal relief that Realtek may seek arising from the Agreement. Realtek’s decisionmakers cannot make reasonably informed major legal decisions without knowing the basis for such decisions. The proposed redactions balances the decisionmakers’ access to the important information while maintaining FLS’ alleged confidentiality concerns.

Courts routinely allow such relief. *See Boehringer Ingelheim Pharm., Inc. v. Hercon Lab’ys* 1990 WL 160666, at *2 (D. Del. Oct. 12, 1990) (granting in-house counsel access because they are responsible for litigation strategy); *Commissariat A L’Energie Atomique v. Samsung Elecs. Co.*, 430 F. Supp. 2d 366, 370–71 (D. Del. 2006) (permitting non-legal clients a summary of “highly confidential” information to evaluate a new defense because “open communication between attorneys and their clients is a bedrock principle upon which the rules of professional conduct depend”); *MariCal*, 2018 WL 6304403, at *1 (de-designating to permit non-legal clients

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access because otherwise a party's ability to make "fundamental decisions" about the litigation would be compromised).

Requested Relief: Order that: Realtek's in-house counsel and decisionmakers may review the cover page and Exhibit B of the Agreement with the numbers redacted.

Plaintiff's Position

This Court already denied the exact relief Realtek seeks. Dkt. # 63. Realtek appealed, conferring jurisdiction over the issue to the Federal Circuit. Dkt. # 73. Realtek's repeated request should be summarily denied.

In addition to the reasoning of the Court's previous Order, Realtek fails to show any ground for its request. It misstates the standard to be co-extensive with trade secret protection. Neither this Court's Interim Protective Order, nor any precedent cited by Realtek requires such a showing. The Court's Interim Protective Order merely refers to matter "deemed confidential by the producing party." On its face, the agreement at issue recites that its terms are to be maintained confidential. In connection with Realtek's September 23, 2022 email submission (regarding disclosing portions of the same license agreement) Future Link provided a declaration showing the sensitive nature of the provisions of the agreement and explaining the competitive harms that would flow from its disclosure. Sep. 23 submission, Ex. D. This provides more than sufficient basis to maintain the confidentiality of the agreement and deny Realtek's request.

Realtek's cited authorities do not support its request. In *MariCal* the court ruled that an expert's conclusions about damages (not underlying confidential evidence) was not confidential and could be disclosed to in-house counsel. In *Boehringer*, access was permitted to in- house counsel who were able to be segregated from all competitive decision-making and were subject to the Court's obligations of professional responsibility to avoid improper disclosure. Realtek and its in-house counsel are outside the U.S., and none of the facts specific to *Boehringer* apply here.

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The facts of *Commissariat* are similarly inapposite as that Court was not asked to allow disclosure of an actual license agreement but rather summary information that is not even contained in the decision.

III. Issue No. 3 (Raised by Defendant): Whether Realtek may disclose to outside counsel who are not counsel of record limited materials.

Defendant's Position

Realtek seeks limited relief from the Protective Order to show outside counsel for Realtek who are not counsel of record certain materials produced in discovery.

Realtek is consulting with additional outside counsel who have not appeared in this litigation to help assist in the evaluation of a potential appeal and any other remedies or actions that may be appropriate. Additional outside counsel agrees to be bound by the Protective Order and treat the documents as “Outside Attorneys’ Eyes Only”.

This should not be a controversial dispute. Realtek’s additional outside counsel will abide by the Protective Order.

Requested Relief: Order that: Realtek’s outside counsel who are not counsel of record may review FLS_00120645-674, 191288-311, 191879-893, 191895-96, 192533-791, 192805-899. Such outside counsel agrees to be bound by the Protective Order and treat the documents as “Outside Attorneys’ Eyes Only”.

Plaintiff's Position

Realtek requests that unspecified individuals should have access to materials designated under the protective order in this matter without appearing before this Court or subjecting themselves to its jurisdiction. That request should be denied. Realtek offers no explanation why unspecified attorneys should be exempted from the Court’s protective order. There is no great burden for attorneys to appear in this Court in order to have access to confidential materials in this

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proceeding. That process insures that lawyers gaining access to sensitive material are properly subject to the Court's jurisdiction and, if needed, enforcement. Further, Realtek contemplates not disclosing to either the Court or to Future Link the "outside counsel" to whom it intends to disclose materials. During the parties' conference of counsel, Realtek could not identify any lawyer or law firm to whom it was seeking disclosure. This would make it impossible for Future Link and the Court to address any improper disclosures or other violations. Realtek offers no explanation why these unidentified lawyers cannot simply appear before this Court.

ORDER

On October 5, 2022, the Court held a video conference to resolve the disputes raised by Defendant.

Issue No. 1: Having considered the parties' submissions and oral arguments, the Court DENIES Defendant's requested relief. The Court shall use the redactions proposed by Plaintiff.

Issue Nos. 2 & 3: Having considered the parties' submissions and oral arguments, the Court DENIES Defendant's requests for relief in Issue Nos. 2 & 3.

So ORDERED this 10th day of October, 2022.



ALAN D ALBRIGHT
UNITED STATES DISTRICT JUDGE



US007917680B2

**(12) United States Patent
Locker**

**(10) Patent No.: US 7,917,680 B2
(45) Date of Patent: Mar. 29, 2011**

(54) PERFORMANCE BASED PACKET ORDERING IN A PCI EXPRESS BUS

(75) Inventor: **Kevin Locker**, Scottsdale, AZ (US)

(73) Assignee: **NXP B.V.**, Eindhoven (NL)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 372 days.

(21) Appl. No.: **11/719,532**

(22) PCT Filed: **Nov. 18, 2005**

(86) PCT No.: **PCT/IB2005/053821**

§ 371 (c)(1),
(2), (4) Date: **May 16, 2007**

(87) PCT Pub. No.: **WO2006/054266**

PCT Pub. Date: **May 26, 2006**

(65) Prior Publication Data

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Related U.S. Application Data

(60) Provisional application No. 60/629,206, filed on Nov. 18, 2004.

(30) Foreign Application Priority Data

Nov. 18, 2005 (WO) PCT/IB05/053821

(51) Int. Cl.
G06F 13/36 (2006.01)

(52) U.S. Cl. **710/311; 711/154**

**(58) Field of Classification Search 710/310-315;
711/147, 154**
See application file for complete search history.

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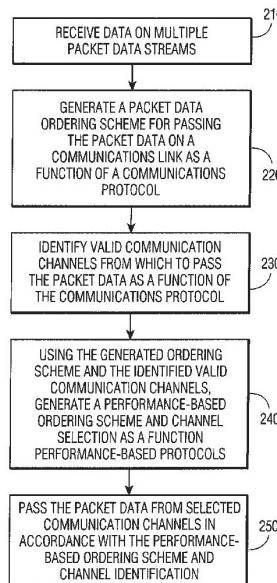
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Primary Examiner — Clifford H Knoll

(57) ABSTRACT

A communications arrangement is implemented for packet data communications control. According to an example embodiment of the present invention, a communications arrangement (100), such as a PCI Express type arrangement, carries out separate arbitration functions (112, 116, 117, 118) for ordering packet data. One of the arbitration functions (112) orders the packet data in accordance with protocol standards (e.g., to meet PCI Express standards when implemented with a PCI Express system). The other arbitration function (116, 117, 118) orders the packet data in accordance with performance standards while maintaining compliance with the protocol standards.

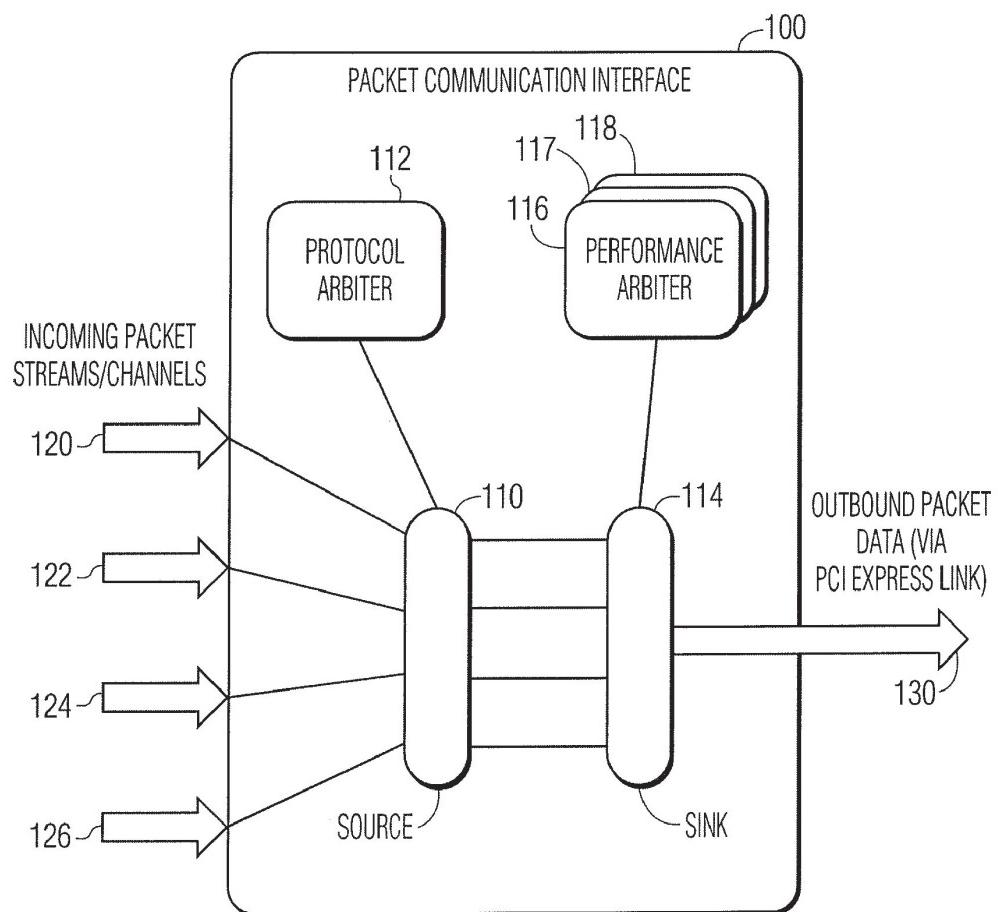
20 Claims, 4 Drawing Sheets



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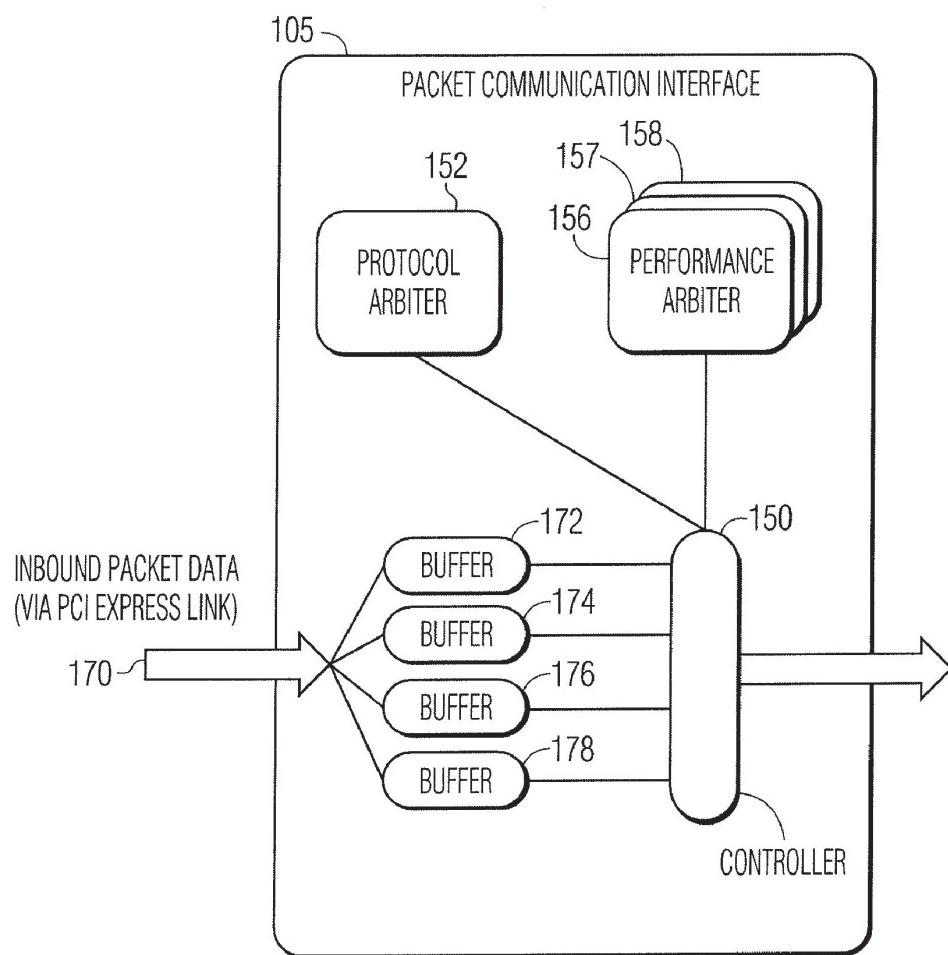
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US 7,917,680 B2**FIG. 1A**

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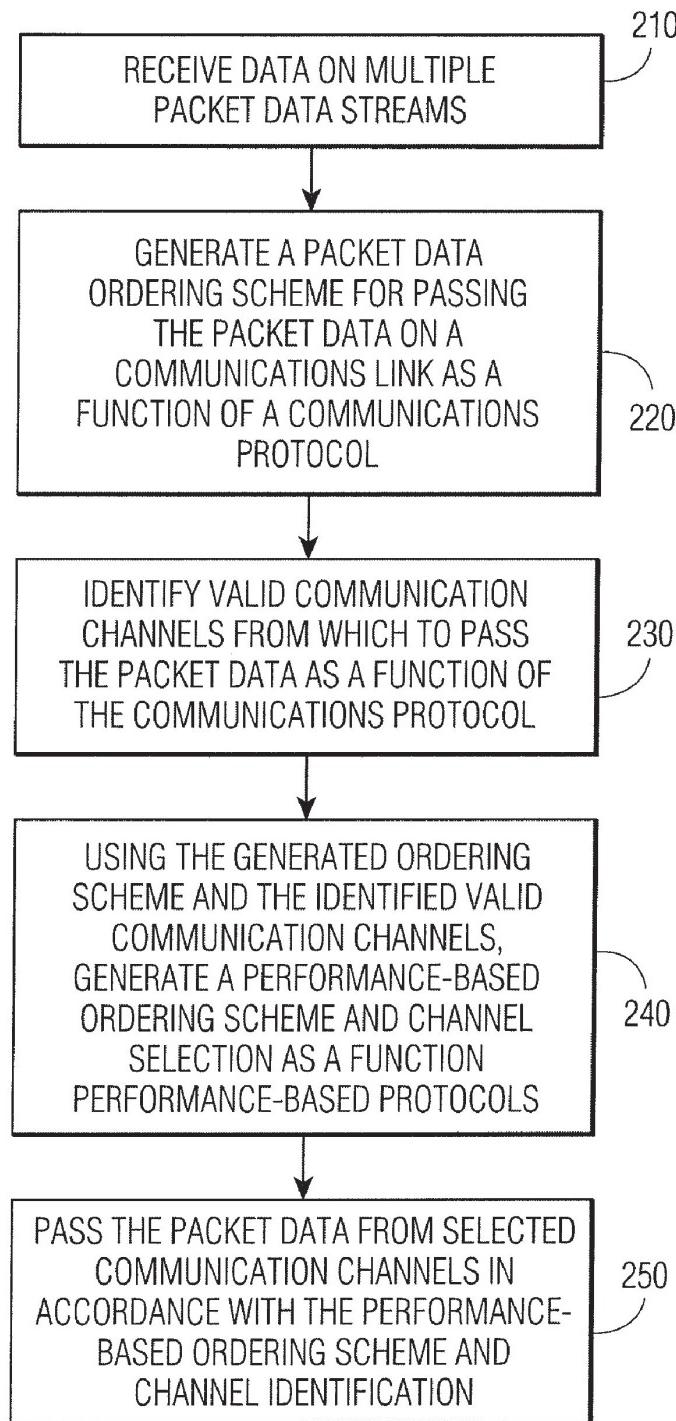
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US 7,917,680 B2**FIG. 1B**

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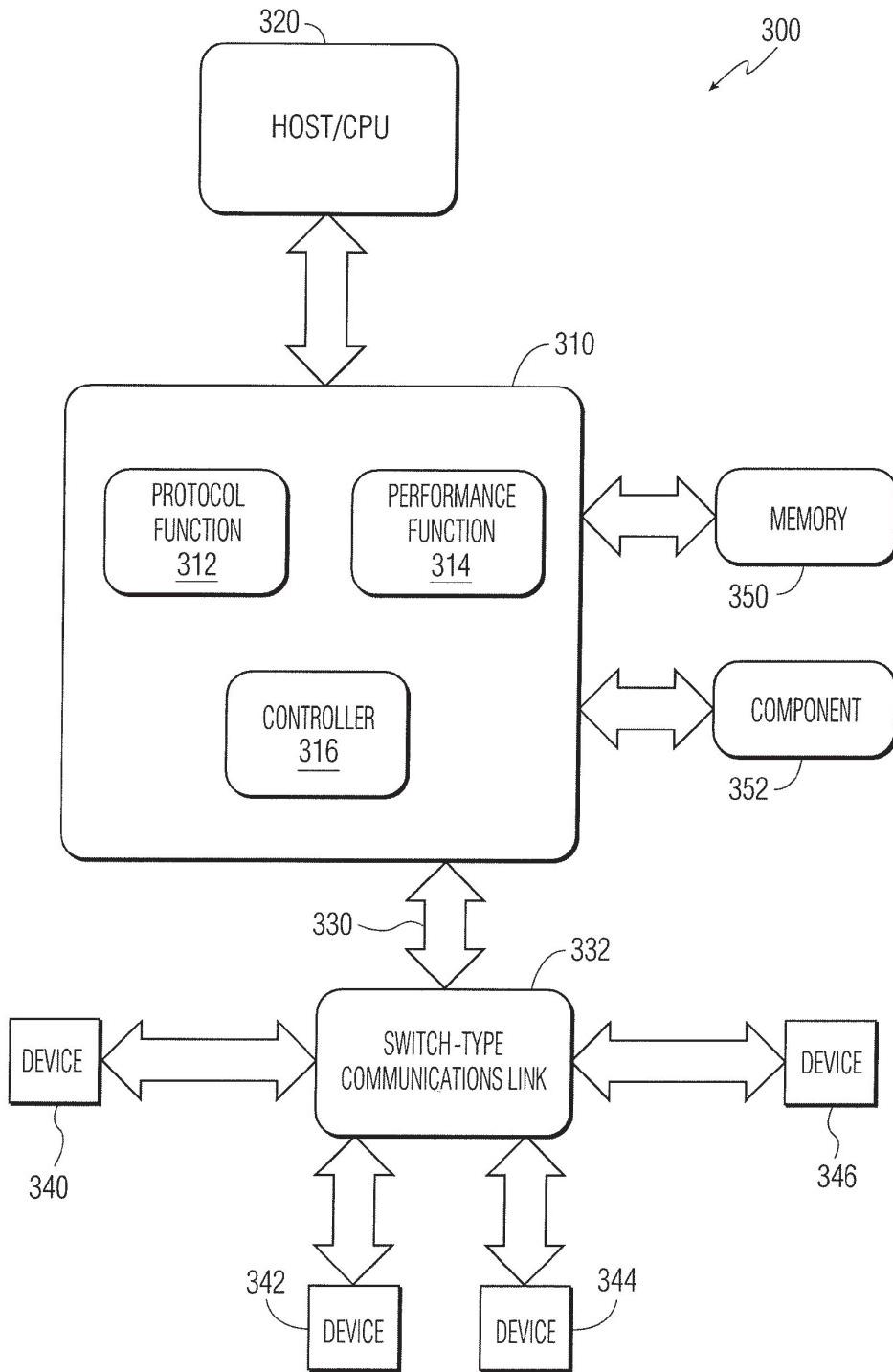
US 7,917,680 B2**FIG. 2**

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**FIG. 3**

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**PERFORMANCE BASED PACKET
ORDERING IN A PCI EXPRESS BUS**

The present invention relates generally to passing information and, more particularly, to the passing of information involving the merging of multiple packet streams.

Many different types of electronic communications are carried out for a variety of purposes and with a variety of different types of devices and systems. One type of electronic communications system involves those communications associated with packet-based communications between two or more different components. For instance, computers typically include a central processing unit (CPU) that communicates with peripheral devices via a bus. Instructions and other information are passed between the CPU and the peripheral devices on a communications BUS or other link and often use packetized data streams.

In typical high performance packet-based systems, packet ordering rules are implemented to ensure accurate data transfer and to meet other desirable performance characteristics. These rules are generally associated with a particular protocol, the enforcement of which is important for the consistent and reliable operation of the system.

One challenge to the operation of packet-based systems involves the processing of multiple packet streams. Systems employing packet-based communications typically employ data paths over which multiple packet streams are passed. When packet streams are communicated simultaneously, the streams are often merged at a particular point in a datapath and passed accordingly along the datapath. Points in a datapath where two or more packet streams are merged can be a performance bottleneck. For example, merging packet streams typically involves the use of channels along which the streams are communicated. Often, data collisions can occur when implemented with channels. In addition, the coordination of the use of such channels can become challenging when the amount of data being processed is high, and when particular protocols need to be followed when coordinating the communication.

The above-discussed challenges are associated with a variety of communications approaches involving packet communications. One type of packet-based communications approach involves the use of a PCI (Peripheral Component Interconnect) system. PCI is an interconnection system between a microprocessor and attached devices in which expansion slots are spaced closely for high speed operation. Using PCI, a computer can support new PCI cards while continuing to support Industry Standard Architecture (ISA) expansion cards, which is an older standard. PCI is designed to be independent of microprocessor design and to be synchronized with the clock speed of the microprocessor. PCI uses active paths (on a multi-drop bus) to transmit both address and data signals, sending the address on one clock cycle and data on the next. The PCI bus can be populated with adapters requiring fast accesses to each other and/or system memory and that can be accessed by a host processor at speeds approaching that of the processor's full native bus speed. Read and write transfers over the PCI bus are implemented with burst transfers that can be sent starting with an address on the first cycle and a sequence of data transmissions on a certain number of successive cycles. The length of the burst is negotiated between the initiator and target devices and may be of any length. PCI-type architecture is widely implemented, and is now installed on most desktop computers.

PCI Express architecture exhibits similarities to PCI architecture with certain changes. PCI Express architecture employs a switch that replaces the multi-drop bus of the PCI

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architecture with a switch that provides fan-out for an input-output (I/O) bus. The fan-out capability of the switch facilitates a series of connections for add-in, high-performance I/O. The switch is a logical element that may be implemented within a component that also contains a host bridge. A PCI switch can logically be thought of, e.g. as a collection of PCI-to-PCI bridges in which one bridge is the upstream bridge that is connected to a private local bus via its downstream side to the upstream sides of a group of additional PCI-to-PCI bridges.

Packet streams communicated in PCI Express types of systems are often merged as discussed above, which can be a performance consideration in the system. The speed and accuracy at which the merging is carried out affects the PCI Express type system's operation. Furthermore, packet stream processing must be compliant with protocols associated with PCI Express (or whichever system protocols or standard is/are implemented). With PCI Express systems, these protocols typically specify particular ordering rules that should be used when merging packet streams, in order to comply with the protocol (or standard). Compliance with these types of protocols, while achieving desirable performance (e.g., relatively low latency and relatively high bandwidth) has been challenging.

These and other limitations present challenges to the implementation of packet-based communications with a variety of communications approaches including PCI Express communications approaches.

Various aspects of the present invention involve communication approaches for a variety of computer circuits and systems, such as those including packet-type communications such as PCI-type systems and others. The present invention is exemplified in a number of implementations and applications, some of which are summarized below.

According to an example embodiment of the present invention, packet-based data is processed using both rule-based and performance-based ordering approaches. Packet streams are communicated in accordance with the packet and rule-based processing.

In another example embodiment of the present invention, protocol rule-based ordering of packets is implemented separately from performance-based ordering of the packets in a system employing a rule-based processing approach. For instance, where the system is a PCI Express system, protocols and other rules are implemented for ordering (and processing) the packets. Performance-based ordering of the packets is carried out separately from the rule-based ordering, while meeting the protocols and other rules employed by the PCI Express (or other) system.

A communications arrangement includes a packet processor adapted for implementing an arbitration scheme for separate signaling approaches for protocol-based and performance-based ordering. The packet processor is implemented, for example, where packet streams are merged or otherwise communicated. In some instances, the packet processor manages the communication of packet streams on different channels and any associated merging of the packet data using the arbitration scheme.

In one implementation, the packet processor is adapted for use with a particular protocol-based system such as a PCI Express type of system. The packet processor is programmed to carry out an arbitration scheme for processing the packet data in accordance with protocols associated with the protocol-based system while separately implementing a performance-based processing approach. For instance, where multiple data streams are communicated, a priority or other characteristic-based communications approach is carried out

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for managing (e.g., selecting) the order in which the packets are to be processed in accordance with the protocols. Further, while meeting the protocol requirements, the packet processor further manages the order in which the packets are processed to meet certain performance criteria while continuing to meet the protocol requirements.

The above summary of the present invention is not intended to describe each illustrated embodiment or every implementation of the present invention. The figures and detailed description that follow more particularly exemplify these embodiments.

The invention may be more completely understood in consideration of the following detailed description of various embodiments of the invention in connection with the accompanying drawings, in which:

FIG. 1A is an arrangement for communications involving packet processing in a packet-based system, according to an example embodiment of the present invention;

FIG. 1B is an arrangement for communications involving packet processing in a packet-based system, according to another example embodiment of the present invention;

FIG. 2 is a flow diagram for an approach to packet processing in a packet-based system, according to another example embodiment of the present invention; and

FIG. 3 shows a packet communications interface 300, according to another example embodiment of the present invention.

While the invention is amenable to various modifications and alternative forms, specifics thereof have been shown by way of example in the drawings and will be described in detail. It should be understood, however, that the intention is not to limit the invention to the particular embodiments described. On the contrary, the intention is to cover all modifications, equivalents, and alternatives falling within the scope of the invention as defined by the appended claims.

The present invention is believed to be applicable to a variety of circuits and approaches involving electronic communications, and in particular to those involving communications involving packet-based information. While the present invention is not necessarily limited to such applications, an appreciation of various aspects of the invention is best gained through a discussion of examples in such an environment.

According to an example embodiment of the present invention, a communications approach involves processing packet data in a protocol-based system. The packet data (including, e.g., multiple packet types from a set of source or destination buffers) is ordered in accordance with a packet arbitration approach involving the enforcement of ordering rules of the specified protocol, and further involving the enforcement of performance rules in a manner that facilitates compliance with the protocol. In this regard, performance-driven processing approaches can be implemented (e.g., independently relative to protocols used for particular communication approaches).

In one implementation, streams of packet data are arranged and passed on a common communications link in accordance with the protocol. Packet data in the streams is ordered, relative to other packet data, for passage on the common communications link as a function of the protocols. The ordered packet data is then further ordered as a function of one or more performance-based rules while maintaining compliance with the protocols by which the packet data was ordered.

In some applications, packet data passed in an ordered arrangement along a packet communications link (e.g., as discussed above) is ordered at a receiving end of the link. A packet receiving arbitration approach applies ordering rules

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of the specific protocol and also further involving the application of performance rules. For instance, once packet data is ordered and passed along a communications link as described above, a packet arbitration function at a receiving point of the communications link processes the packets for delivery to a receiving function.

In one implementation, different packet types are stored in separate channel buffers at the receiving point, each channel buffer associated with a particular packet type. A protocol arbitration function generates a "valid" signal for each buffer or buffers that are available for data transfer in accordance with the protocol ordering rules. A performance arbitration function then selects a channel among these "valid" channels, in accordance with performance rules, to pass along to a receiving function. In some applications, a single communication interface/link arrangement implements both the above-discussed arbitration approach for ordering packet data for passage along the link, and the packet receiving arbitration function (i.e., the combination carrying out both transmitting and receiving functions).

In another implementation, streams of packet data are passed using multiple communication channels. The protocol and performance rules are used to select a channel from which to pass the packet data according to a variety of characteristics, such as destination, source, and timestamp characteristics associated with the packet data. The protocols are met while enhancing performance by selecting channels among those indicated as valid (in accordance with the protocol rules) from which to pass the packet data efficiently for the particular application. In addition, management of the passage of data on the channels is further carried out in a manner to reduce or eliminate data collisions between channels.

In another example embodiment of the present invention, a protocol-based packet processing arbitration approach is implemented separate protocol and performance functions. The protocol function generates controls (i.e., signals) for the communication of packet streams on a particular communications link, the controls facilitating the merging of the streams and other communications functions. A performance function further generates controls for the communication of the packet streams, the controls facilitating certain performance-based functions while, together with the protocol function controls, maintaining compliance with protocol-based rules. In this regard, the controls generated by the performance function facilitate the adaptation of performance rules (approaches) without necessarily risking violation of the protocol (e.g., one block can enforce protocol rules that are reused with multiple interfacing blocks that have different performance requirements). These controls are then implemented for communications control, such as for controlling the merging of packet data at a particular point in the communications link. Further, the controls can be selectively (e.g., separately) implemented for achieving both protocol compliance and performance-related goals.

In some implementations, the protocol function is adapted for implementation with different performance functions, facilitating a multitude of different performance-based processing approaches. For example, different types of data or different data communications arrangements and applications often benefit from different types of performance-related communications approaches. Different types of packetized data (e.g., Posted Requests, Non-Posted Requests and Completions) can be communicated between a source and destination. In this regard, the separation of the performance function from the protocol function makes possible the implementation of different performance-based rules (functions) with a common protocol function and with a common

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packet processing arbiter. Furthermore, different performance functions can be implemented together with a particular protocol function for processing of a particular packet stream or streams.

In another example embodiment of the present invention, a communications system includes a communications link coupled to components and a link controller (e.g. arbiter) configured for controlling the communication of packet streams on the communications link and/or between the components. The link controller is implemented, e.g. using a software approach involving protocol and performance arbiters that generate controls using separate protocol and performance functions. The protocol function generates control signals for processing the packet streams in accordance with system communications protocols. The performance function (or functions) generates control signals for achieving certain performance-related conditions associated with the processing of the packet streams.

In one implementation, the communications link is a standard link configured for operation in accordance with certain regulated standards that have certain communications protocol requirements. The protocol function controls the communication of packet streams in accordance with the protocols. Further, the link controller implements one or more performance functions with the protocol function while maintaining compliance with the regulated standards. This approach facilitates the tailoring of the performance functions to particular communications approaches without necessarily integrating those performance functions with the protocol functions.

In another implementation, the communications link is configured in accordance with the PCI Express standard (discussed above) and is implemented with a PCI Express link such as a bus or switch. Various aspects of the PCI Express bus and the communications system are implemented in accordance with PCI Express standards (or related/derivative standards). The protocol function is configured for compliance with PCI Express protocols and is implemented together with one or more performance functions by separate arbiters. The protocol arbiter controls the merging and related ordering of packet data in the packet data streams using the PCI Express protocol function to comply with the PCI Express standard. Further, the performance arbiter controls the ordering of the packet data in accordance with selected performance protocols while complying with the PCI Express protocols upon which the protocol-based ordering is based.

For more information regarding the above-mentioned functions (and others herein) as implemented in connection with "PCI Express" applications and/or compliance with "PCI Express," reference may be made to "PCI Express Base Specification Revision 1.0a," April 2003, available from PCI-SIG (PCI-special interest group) of Portland, Oregon. Approaches that are compliant with this PCI Express Base Specification can be considered "PCI Express-compliant."

Turning now to the figures, FIG. 1A shows a PCI Express packet communication interface **100**, according to another example embodiment of the present invention. The PCI Express packet communication interface **100** includes packet source **110** and packet sink **114** functions that control the presentation of packet data for communication on a PCI Express link **130**. The packet source **110** and packet sink **114** respectively implement separate protocol and performance arbiters **112** and **116** for ordering packet data respectively in accordance with PCI Express and performance protocols.

Packet data streams are received on one or more of incoming channels **120**, **122**, **124** and **126**. A packet source **110**

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implements the protocol arbiter **112** to enforce ordering rules specified by the PCI Express Base Architecture Specification and presents (e.g., assigns) a "valid" signal(s) indicating that a P/NP/CPL packet channel (one of channels **120**, **122**, **124** and **126**) has a valid packet that meets PCI Express protocol ordering requirements. Where ordering rules permit a packet in one channel to pass a packet in another channel, multiple channels are indicated as available with simultaneous "valid" indications. The packet sink **114** implements the performance arbiter **116** to select which of the valid channels to accept a packet from.

The source **110** and sink **114** implement the arbiters using one or more of a variety of approaches, depending upon the application. In some implementations, additional performance arbiters such as arbiters **117** and **118** are selectively implemented with or in alternative to performance arbiter **116** and each other, with each arbiter configuration implemented for selected performance-related communications characteristics.

In another implementation, the sink **114** implements the performance arbiter **116** to use timestamp information provided with each packet to select the channel (i.e., among valid channels meeting the PCI Express protocol) with the oldest packet. That is, among channels **120**, **122**, **124** and **126** identified by the source **110** to be valid (as in accordance with PCI Express standards carried by protocol arbiter **112**), the sink **114** checks the timestamp of packet data available on each channel indicated to hold a valid packet. With this approach, PCI Express protocols are adhered to while further ensuring that, from a timestamp perspective, the oldest packet is passed first. In this regard, this approach is applicable for use with first-come first-served (FCFS) packet processing.

In another implementation, an arbitration scheme is implemented by the sink **114** using the performance arbiter **116** to give priority to one of the (valid) channels based on characteristics of the particular packet communication. For instance, priority may be given relative to one or more of: the packet destination (e.g., a device coupled via the PCI Express link **130**), packet source (a device on the incoming channel(s)) or the number of packets in a channel's buffer (e.g., a channel's queue relative to that of other channels' buffers). These performance-based priority schemes can be implemented without necessarily changing or risking violation of the protocol ordering rules implemented by the source **110** using the protocol arbiter **112**.

FIG. 1B is an arrangement **105** for communications involving packet processing at a receiving end of a packet-based system, according to another example embodiment of the present invention. FIG. 1B can be implemented similar to FIG. 1A. FIG. 1B has a protocol arbiter **152** and performance arbiters **156-158** respectively performing protocol ordering and performance ordering of packet data.

Inbound packet data **170** received via a PCI Express link is arranged in buffers **172-178** according to packet type (e.g., with each buffer storing a particular packet type). While four buffers **172-178** are shown, a multitude of buffers and/or buffer types are implemented in connection with the arrangement **105** to meet particular application needs.

A controller **150** implements a protocol arbiter **152** that orders the packets by assigning one or more of the buffers **172-178** as a "valid" buffer. The controller **150** then implements one or more performance arbiters **156-158** to select one or more of the buffers **172-178** indicated as a "valid" buffer from which to pass packets to a receiving function. Although not shown in FIG. 1B, the protocol arbiter **152** and performance arbiters **156-158** can be implemented to communicate

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separately with source and sink blocks (e.g., 110 and 114 of FIG. 1A) rather than the controller 150.

In one implementation, the arrangements 100 and 105 respectively shown in FIGS. 1A and 1B are implemented on a common communications link, with link 130 in FIG. 1A and link 170 in FIG. 1B being the same link. In this regard, the arrangement 100 is a transmission portion of the common link and the arrangement 105 is the receiver portion of the common link. Each of the transmission and receiver portions implementing protocol and performance arbiters as shown, with the arbiters selectively implemented using different protocol and/or performance rules.

In another implementation, the arrangements 100 and 105 respectively in FIGS. 1A and 1B are implemented as a single communications arrangement with bi-directional PCI Express transmitter/receiver functionality.

FIG. 2 is a flow diagram for an approach to packet processing in a packet-based system, according to another example embodiment of the present invention. At block 210, packet data is received from multiple packet data streams (on a channel or channels) for passage on a protocol-based communications link. The data is received, e.g. concurrently for part or all of each data stream, relative to the other data streams and, e.g., on multiple channels. At block 220, an ordering scheme for communicating the packet data on the communications link is generated using a communications protocol (or protocols) for the particular system in which the packet data is being communicated. For instance, where used with a PCI Express system, PCI Express communications protocols (relating, e.g., to packet ordering priority) are used to order packet data at block 220. The ordering scheme assigns a particular order for passing each packet, such that each communication channel or range of channels having a packet that is ready for transfer (in accordance with the communication protocols) is identified as a valid channel at block 230.

At block 240, after the packet data has been ordered and one or more valid communications channels have been identified, performance-based rules are called (implemented) to reassign ordering and/or communication channels from which to pass packet data while maintaining compliance with the protocols used at blocks 220 and 230. For example, certain packet characteristics such as destination, source, and/or timestamp characteristics can be implemented with performance protocols to order the packets for passing on a communications link (e.g., switch, bus or emulated link). A level or levels of importance can be assigned to particular packet characteristics and used to weigh the importance of individual packets, relative to other packets, when ordering the packets for communications.

Using the generated ordering scheme and identified valid communication channels, a performance-based ordering scheme and channel selection are generated as a function of performance-based protocols. These performance-based protocols can be implemented independently from the implementation of the communications protocol, such that different types of performance-based protocols can be implemented for different data and/or communications approaches at block 240, while using a common communications protocol.

Once the packet data has been ordered and a particular communications channel has been selected at block 240, the packet data is passed on a communication link or links (e.g., a PCI Express link) in accordance with the performance-based ordering scheme and channel selection at block 250. This passage of the packet data is carried out in accordance

with the communications protocol-based ordering scheme, thus facilitating compliance therewith.

FIG. 3 shows an arrangement 300 for communications involving packet processing in a packet-based system, according to another example embodiment of the present invention. A packet processing arrangement 310 includes protocol and performance functions 312 and 314, respectively, used by a controller 316 (e.g., with separate protocol and performance arbiters) to order and communicate packet data on a communications link 330. The packet processing arrangement 310 is coupled to a host CPU 320, memory 350 and to one or more components 352, such as a display or disk drive.

The link 330 is coupled to a switch 332, which in turn couples to multiple devices including devices 340, 342, 344 and 346. The link 330 and switch 332 can be implemented together and/or emulated in connection with communications protocols (e.g., with PCI Express protocols).

When packet data from a source (e.g., from memory 350) is to be passed via the communications link 330, the controller 316 implements the protocol function via a protocol arbitration scheme to order the data in accordance with pre-defined protocol rules. The controller 316 then further implements the performance function 314 via a performance arbitration scheme, separate from the protocol arbitration scheme, to further order the data in accordance with performance-based rules. This ordered data is then passed to one or more of the devices 340-346 in accordance with the protocol function and further enhanced via the performance function 314.

The arrangement 300 is implemented in a variety of manners, depending upon the application. For example, where implemented with a general purpose desktop/mobile PCI Express computing approach, the arrangement 300 provides an I/O (input/output) interconnect function involving, e.g., memory and I/O bridges and PCI Express communications link control and/or emulation. Where implemented with a PCI-Express-based server/workstation or network system, the arrangement 300 involves implementation of a chipset with communication links to CPU's, memory and other components, with PCI Express-based links and corresponding PCI Express communications link control and/or emulation.

The various embodiments described above and shown in the figures are provided by way of illustration only and should not be construed to limit the invention. Based on the above discussion and illustrations, those skilled in the art will readily recognize that various modifications and changes may be made to the present invention without strictly following the exemplary embodiments and applications illustrated and described herein. For instance, protocols other than PCI Express may be amenable to implementation using similar approaches. In addition, one or more of the above example embodiments and implementations may be implemented with a variety of PCI Express devices and other approaches, including chips and printed circuit boards (PCBs). The above example embodiments and implementations may also be integrated with a variety of circuits, devices, systems and approaches including those for use in connection with storage, display, networking and mobile communications. Moreover, various embodiments discussed in the context of PCI and PCI Express type applications may be implemented using a variety of devices and communications approaches, including those not necessarily applicable to PCI or PCI Express. These approaches are implemented in connection with various example embodiments of the present invention. Such

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modifications and changes do not depart from the true spirit and scope of the present invention that is set forth in the following claims.

What is claimed is:

1. A method for managing packet-based communications in a rules-based system, the method comprising:

in a packet processor;

generating a protocol-based ordering configuration for passing packet data as a function of protocol compliance rules for the rules-based system, and

generating a performance-based communications order for passing the packet data as a function of performance-based rules and the generated protocol-based ordering configuration; and

communicating the packet data as a function of the performance-based communications order.

2. The method of claim **1**, wherein generating a protocol-based ordering configuration for passing packet data as a function of protocol compliance rules for the rules-based system includes using a first arbiter to generate the protocol-based ordering configuration, and wherein generating a performance-based communications order for passing the packet data as a function of performance-based rules and the generated protocol-based ordering configuration includes using a second separate arbiter to generate the performance-based communications order.

3. The method of claim **1**, further comprising: receiving the communicated packet data; generating a receiving protocol-based ordering configuration for passing the communicated packet data to a receiving function as a function of protocol compliance rules for the rules-based system; generating a receiving performance-based communications order for passing the communicated packet data to a receiving function as a function of performance-based rules and the generated receiving protocol-based ordering configuration; and passing the communicated packet data to a receiving function as a function of the generated receiving performance-based communications order.

4. The method of claim **3**, wherein generating a receiving protocol-based ordering configuration for passing the communicated packet data to a receiving function as a function of protocol compliance rules for the rules-based system includes using a first receiving arbiter to generate the protocol-based ordering configuration, and wherein generating a receiving performance-based communications order for passing the communicated packet data to a receiving function as a function of performance-based rules and the generated receiving protocol-based ordering configuration includes using a second separate receiving arbiter to generate the performance-based communications order.

5. The method of claim **4**, wherein: generating a protocol-based ordering configuration and a performance-based communications order for passing packet includes using a transmitter configured to implement the protocol and performance-based rules; communicating the packet data as a function of the performance-based communications order includes communicating the packet data to a receiver configured to implement the receiving protocol and receiving performance-based rules; and generating a receiving protocol-based ordering configuration and a receiving performance-based communications order includes using the receiver.

6. The method of claim **5**, wherein using a transmitter and using a receiver include using an integrated communications arrangement configured with both the transmitter and receiver functions.

7. The method of claim **1**, wherein generating a protocol-based ordering configuration includes identifying incoming

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channels from which packet data can be communicated, and wherein generating a performance-based communications order includes selecting at least one of the identified incoming channels from which to communicate the packet data.

8. For use with protocol-based communications approaches involving communications protocols for communicating packet data on a communications link, a communications circuit arrangement comprising:

a protocol arbiter configured and arranged to assign a communications priority to the packet data as a function of the communications protocols;

a performance arbiter configured and arranged to order the packet data for communication on the communications link as a function of the communications priority and performance rules; and

a controller configured and arranged for controlling the passage of the packet data on the communications link as a function of the packet data ordering.

9. The arrangement of claim **8**, wherein the protocol arbiter and the performance arbiter are separately implemented.

10. The arrangement of claim **8**, further comprising:

packet data channels bearing the packet data;
wherein the protocol arbiter is configured and arranged for assigning a communications priority to the packet data by selecting ones of the communications channels that are valid in accordance with the communications protocols; and

wherein the performance arbiter orders the packet data for communication on the communications link as a function of the communications priority and performance rules by selecting at least one communications channel from the valid channels from which to communicate packet data as a function of the performance rules.

11. The arrangement of claim **8**, wherein the performance arbiter is configured and arranged for ordering the packet data for communication on the communications link as a function of performance rules based on at least one of: timestamp, source of the packet data, destination of the packet data and number of packets in queue for a particular channel from which packets are available for communication.

12. The arrangement of claim **8**, wherein the performance arbiter includes multiple performance arbiter functions, each function configured to generate a performance-based communications order as a function of distinct performance-based rules.

13. The arrangement of claim **8**, wherein the communications link is a PCI Express link.

14. The arrangement of claim **13**, wherein the communications link is a PCI Express switch.

15. The arrangement of claim **8**, wherein the communications link is an internal CPU-based link.

16. The arrangement of claim **8**, wherein the communications link is a network link.

17. The arrangement of claim **8**, further comprising:
a receiver coupled to the communications link and configured and arranged for receiving the packet data passed on the communications link as a function of the packet data ordering;

a receiving protocol arbiter configured and arranged to assign a receiving communications priority to the received packet data as a function of the communications protocols;

a receiving performance arbiter configured and arranged for ordering the received packet data as a function of the receiving communications priority and performance-based rules; and

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a receiving controller configured and arranged for controlling the passage of the received packet data to a receiving function as a function of the ordering of the received packet data.

18. The arrangement of claim **17**, wherein the receiver includes buffers configured and arranged for storing incoming packet data from the communications link, each buffer storing a particular type of packet data, and wherein the receiving controller controls the passage of the received packet data from the buffers to the receiving function.

19. The arrangement of claim **18**, wherein the receiving protocol arbiter is configured and arranged to assign a receiving communications priority to the received packet data as a function of the communications protocols by assigning valid buffers from which to communicate packet data, and wherein the receiving performance arbiter function is configured and

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arranged for ordering the received packet data as a function of the receiving communications priority and performance-based protocols by selecting one of the valid buffers from which to communicate packet data as a function of the performance-based rules.

20. A packet processing circuit comprising:
an input circuit to receive incoming packets;
a protocol arbiter circuit configured to assign an order to the packets based upon protocol-based ordering rules;
a performance arbiter circuit configured to reassign an order to the packets based upon the generated protocol-based ordering data and performance-based rules; and
a communications circuit to communicate the packets in the reassigned order.

* * * * *

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The foregoing filing complies with the relevant type-volume limitation of the Federal Rules of Appellate Procedure and Federal Circuit Rules because the filing has been prepared using a proportionally-spaced typeface and includes 10,162 words.

Date: March 4, 2024

By: /s/ Michael F. Murray

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CERTIFICATE OF SERVICE

I certify that I filed the foregoing motion with the Clerk of the United States Court of Appeals for the Federal Circuit via the CM/ECF system this 4th day of March, 2024, and also served a copy on counsel of record via the CM/ECF system.

Date: March 4, 2024

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